RESULT

OF

ASTRONOMICAL OBSERVATIONS

MADE AT

THE HONORABLE

THE EAST INDIA COMPANY'S OBSERVATORY

AT MADRAS

BY

THOMAS GLANVILLE TAYLOR, Esq.

ASTRONOMER TO THE HONORABLE COMPANY.

VOL. II.

FOR THE YEARS 1832 AND 1833.

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PREFACE.

More convinced than ever of the propriety of giving the *result* of Astronomical Observations, in preference to publishing the observations in an unreduced state, I have (with the permission of the Right Honorable the Governor in Council of this Presidency) given in the following pages the result of all the Astronomical Observations which have been made in this Observatory in the years 1832 and 1833, and have forwarded to England manuscript copies of the rough observations to be deposited in the Honorable Company's Library. The plan adopted upon the present occasion is as nearly as possible the same as that followed in Volume I. for 1831; since the publication of the latter work I have been favored with part 5 of the Greenwich Observations for 1831, containing the result of the observations given in parts 1—4 of that year; in one respect (that of giving the result of *each* observation instead of the *mean* result) I should much prefer to have followed the Greenwich plan, but the inconvenient delay I have experienced in printing (arising partly from want of type) would have rendered it impossible to print the additional number of pages which would be necessary without getting very considerably in arrears; to accomplish even the present work in ten months, I have been compelled to employ two separate printing establishments, and from this cause have been obliged to introduce a different size type and a second system of pageing, but the ill appearance thus introduced, will I hope be considered sufficiently atoned for, by my being enabled to publish the work 4 or 5 months earlier than I otherwise should have been able to do. The observations with the Transit Instrument have been somewhat interfered with by the unequal wear of the pivots (which has rendered it necessary to have them returned and Steel Collars applied over the present ones of Bell Metal), and by the unstability of the Meridian Marks: the result of these casualties is, that the accuracy of half a tenth of a second of time, which at commencing the Superintendence of this Observatory, I had vainly promised myself to attain, is forfeited in *some cases* to double and treble this amount; notwithstanding this, the observations will I imagine be found to possess a very useful, if not a valuable degree of accuracy:

A tolerable opinion of their relative accuracy with regard to that attained at other Observatories can be formed by the following table; exhibiting *a Comparison of the Right Ascension of several Stars which have been frequently observed at Madras with their places observed at the Observatories of Greenwich, Cambridge, and Königsberg.*

Names.	Right Ascension, January 1, 1832. Madras.	Difference from Madras.			Remarks.
		Greenwich.	Cambridge.	Königsberg.	
	h. *m.* *s.*	*s.*	*s.*	*s.*	
16 Ceti α	0 35 9,29	— 0,02	— 0,02	.....	
13 Arietis α	1 57 43,22	— 0,05	— 0,02	— 0,03	
92 Ceti α	2 53 30,36	— 0,04	+ 0,03	— 0,01	
33 Persei α	3 12 22,05	+ 0,09	+ 0,09	+ 0,25	
87 Tauri α	4 26 17,31	+ 0,05	+ 0,04	+ 0,04	
13 Aurigæ α	5 4 17,36	+ 0,07	+ 0,09	+ 0,14	
58 Orionis α	5 46 4,74	+ 0,05	+ 0,07	+ 0,01	
9 Can. Maj. α	6 37 44,63	— 0,08	+ 0,03	0,00	
66 Geminorum α	7 23 52,10	+ 0,08	+ 0,08	.....	
10 Can. Min. α	7 30 30,29	+ 0,06	— 0,05	— 0,02	
78 Geminorum β	7 35 1,56	+ 0,04	— 0,07	— 0,01	
30 Hydræ α	9 19 20,01	— 0,04	— 0,02	— 0,15	
32 Leonis α	9 59 25,11	+ 0,03	— 0,05	— 0,06	
50 Urs. Maj. α	10 53 17,37	+ 0,09	+ 0,06	+ 0,06	
94 Leonis β	11 40 29,21	— 0,03	— 0,08	— 0,10	
67 Virginis α	13 16 21,25	— 0,11	+ 0,01	— 0,04	
16 Bootis α	14 8 0,04	+ 0,06	+ 0,08	+ 0,07	
36 Bootis ϵ	14 37 39,00	— 0,03	+ 0,05	.....	
9 Libræ α^2....	14 41 35,97	— 0,05	— 0,01	— 0,04	
5 Cor. Bor. α	15 27 04,65	0,00	+ 0,01	0,00	
24 Serpentis α	15 35 59,95	— 0,02	+ 0,02	+ 0,01	
1 Ophuichi δ	16 4 33,03	— 0,08	— 0,15	.....	
21 Scorpii α	16 19 7,26	— 0,17	— 0,07	— 0,04	
55 Ophuichi α	17 27 8,42	— 0,03	— 0,02	— 0,09	
3 Lyræ α	18 37 15,13	+ 0,01	— 0,08	— 0,02	
10 Lyræ β	18 43 52,78	+ 0,01	— 0,10	.....	
53 Aquilæ α	19 42 35,23	— 0,01	— 0,03	— 0,02	
60 Aquilæ β	19 47 3 72	+ 0,02	— 0,07	+ 0,03	
6 Capricorni α^2....	20 8 43,71	— 0,03	— 0,05	+ 0,04	
50 Cygni α	20 35 42 48	— 0,02	+ 0,06	— 0,03	
22 Aquarii β	21 22 42,68	— 0,14	— 0,01	.....	
34 Aquarii α	21 56 9,24	+ 0 03	— 0,01	0,00	
54 Pegasi α	22 56 23 93	+ 0,01	— 0,08	— 0,02	
21 Andromedæ α	23 59 43,19	+ 0,01	— 0,05	— 0,06	

The observations with the Mural Circle have proceeded without any interruption, and the results *inter se*, are as accordant as any observations

N. B.—The Catalogues of Cambridge and Königsberg are derived from Vol. V. Page 17 of the Cambridge Observations, save that the former has been *diminished* 0,10*s*. and the latter *increased* 0,07*s*. to reduce them to the Equinoctial Point assumed in the Madras and Greenwich Catalogues.

of this nature will permit; in computing the Parallax of the Planet Mars where a comparison between the Madras, Cape of Good Hope, and St. Helena observations has been instituted; two singular cases of discordance had led me to suspect an error of large amount in one set of divisions of the Madras Mural Circle; but on examining the divisions by means of two Collimators, I am enabled to state, *that the error of division is confined to very allowable limits, and may possibly extend to a very great degree of accuracy.* The observations made out of the meridian are not so numerous as I could wish, this has mostly arisen from the want of a building to shelter the observing Telescope from the wind; on this account the transit of Mercury over the Sun's disc in May 1832, was but imperfectly observed, and several occultations have been lost; in short I cannot but consider the Observatory incomplete from the want of a fixed Instrument for observing objects out of the meridian; hitherto for this purpose I have employed the 5 feet Achromatic by Dollond, mounted upon Smeaton's plan; but the utmost accuracy attainable with this sort of Instrument falls far short of that accuracy which the present state of practical Astronomy demands. The observations on the meridian have with but few exceptions been made as heretofore by the Assistants, who are natives of high *caste*; and those out of the meridian for the most part by myself: of the abilities of the Native Assistants as observers I entertain the highest possible opinion, and as computers, they possess a very serviceable degree of accuracy and despatch, notwithstanding which the reduction of the observations has for the most part been performed by myself, having trusted nothing of importance to the native computers without a strict examination or a recomputation.

With regard to the methods of reduction and finding the Index Error, &c. the plans I have adopted differ in no respect from those employed at the Greenwich Royal Observatory, which were I believe devised by Mr. Pond the present Astronomer Royal, to whom at least I am indebted for them: In employing the Greenwich Catalogue as my Zero point, it may not be amiss for me here to record my opinion, that the Greenwich Transit Observations are at present excelled by none, and the observations derived from the two Mural Circles (due as much to the judicious way in which their results are combined, as to the superior excellence of the Instruments) are very superior to any yet published observations.

It now remains for me to say a word or two with regard to the arrangement of the work. Having experienced considerable delay on the part of the printer in the execution of Volume I. I commenced printing the present work on the 20th December 1833, ten days before the observations constituting the results were completed; and about as many months before the completion of the computation; from this cause, circumstances (which have arisen in the course of computation and printing) have compelled me to deviate from the straight forward course of arrangement I otherwise could wish to have followed; my object however has been to render the work complete in itself, and forward in a degree however small the cause of Astronomy.

T. G. TAYLOR,

H. C. ASTRONOMER.

OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT.

The Intervals between the wires at the beginning of the year 1832, is assumed to be the same as that determined at Page 6, Vol. I for 1831 ; there hold good up to 18th January when the whole set were broken, and a new set put in by my Assistant Anuntacharyer; (being absent myself at the time on other duty in Calcutta); from 50 Observations between the 18th and the 23d the Equatoreal Intervals were found to be:

from 1st wire to centre.....	$54^s,462$
2d	27 ,294
4th.....	27 ,438
5th.....	54 ,985

these wires were I imagine put in with bad varnish, for on the 23d January they were again found broken; on this occasion Mr. Law (of whose skill and abilities to perform this or any other job which he may undertake I have the highest possible opinion) applied a new set ; from the mean of 70 Observations the Equatoreal Intervals were found to be :

from 1st wire to centre.....	$54^s,400$
2d	27 ,280
4th.....	27 ,302
5th.....	54 ,750

On the 8th August, I found the 1st and second wires bent in consequence of which I put in a new set of silk lines; when from 70 Observations of Stars situated near the Pole, the Equatoreal Intervals were found to be :

from 1st wire to centre.....	$54^s,988$
2d	27 ,566
4th.....	27 ,352
5th.....	55 ,021

On the 9th November the following note appears in the Transit book. " Found the moveable wire had been caught by the varnish which secured the fixed wires, to remedy this I filed a groove to contain the varnish and put

in a new set of wires" from 70 Observations the Equatoreal Intervals were now found to be :

from 1st wire to centre	54^s,643
2d	27 ,323
4th	28 ,128
5th	55 ,281

In the month of May 1833, being desirous of ascertaining if the wires remained stable; from 72 Observations of Stars situated near to the Pole I found the Equatoreal Intervals to be :

from 1st wire to centre	54^s,619
2d	27 ,357
4th	28 ,071
5th	55 ,121

On the 12th May A. M. the following note appears in the Transit book. " The centre wire appears to have shifted its position since the observations of last night" and on the 13th " fearing that by reason of the hot land wind the centre wire might have become loosed, which however was not apparent I applied fresh varnish (tincture of opium) to the ends of all the five wires," from the observations of several Stars situated near to the Pole the Equatoreal Intervals were found to be :

from 1st wire to centre	54^s,961
2d	27 ,618
4th	27 ,878
5th	54 ,924

On the 23d of August by reason of very heavy rain a few drops of water had leaked through the roof and falling upon the eye end of the Telescope, had bent two of the wires, in consequence of which I put in a new set; from 36 Observations of Stars situated near to the Pole the Equatoreal Intervals were found to be :

from 1st wire to centre	55^s,420
2d	27 ,896
4th	27 ,374
5th	54 ,594

Hence to reduce observations made at the five wires to the centre wire, it becomes necessary to apply the following corrections :

							s.
1832—From	January	1st	to	January	28th....	+	,061 / sin. N.P.D.
	January	18th	—	January	23d	—	,133 / sin. N.P.D.
	January	23d	—	August	8th....	—	,074 / sin. N.P.D.
	August	8th	—	November	9th....	+	,036 / sin. N.P.D.
	November	9th	—	End of the year....		—	,288 / sin. N.P.D.
1832— „	November	9th	— 1833 May		12th....	—	,243 / sin. N.P.D.
1833— „	May	12th	—	August	23d	—	,045 / sin. N.P.D.
	August	23d	—	End of the year...		+	,270 / sin. N.P.D.

In the absence of any cause which can explain why the Equatoreal Intervals in November 1832 differ from those in May 1833, I have employed between the

				s.
9th of November and	31st December	1832..	—	,288 / sin. N.P.D.
1st of January	— 1st March	1833..	—	,266 / sin. N.P.D.
1st of March	— 12th May	1833..	—	,243 / sin. N.P.D.

We will now examine the observations for the determination of the value of the Micrometer screw which it will be recollected was found but approximately in the year 1831; for this purpose the following are the *Intervals of time which the Pole Star took to pass over* 2 R. 0 D. 1 R. 50 D. *&c. to the East and West of the centre wire.*

	East of the Centre Wire.				West of the Centre Wire.			
	R. D. 2 0	R. D. 1 50	R. D. 1 0	R. D. 0 50	R. D. 0 50	R. D. 1 0	R. D. 1 50	R. D. 2 0
1832	*m. s.*	*m. s.*	*m. s.*	*m. s.*	*m. s.*	*m. s.*	*m. s.*	*m. s.*
May 16	.....	2 5,5	1 23,5	0 44,5	0 39,5	.....	.....	.....
17	2 45,0	2 4,0	1 22,5	0 42,0	0 41,5	1 23,0	2 5,0	2 46,0
26	.....	.....	.....	.....	0 41,5	1 22,5	2 5,0	2 46,0
29	2 47,0	2 4,0	1 22,0	0 41,5	0 40,0	1 21,0	2 1,0	2 45,0
June 9	2 46,0	2 4,5	1 23,0	0 41,5	0 41,5	1 23,5	2 4,5	2 46,0
November 16	2 46,0	2 4,5	1 22,0	0 40,0	0 41,5	1 23,0	2 5,5	2 48,5
17	2 45,5	2 4,5	1 22,0	0 42,0	0 40,5	1 23,5	2 6,0	2 47,0
22	2 49,5	2 5,5	1 23,5	0 42,5	0 42,5	1 24,5	2 5,0	2 46,5

1832		m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.
November	23	2 46,5	2 4,5	1 23,5	0 41,5	0 42,0	1 23,5	2 5,5	2 46,0
	25	2 46,0	2 4,5	1 23,0	0 42,0	0 41,5	1 23,0	2 6,0	2 46,5
	29	2 44,5	2 3,5	1 22,0	0 41,0	0 42,0	1 25,0	2 6,5	2 48,5
December	4	2 47,0	2 5,0	1 23,5	0 42,0	0 41,0	1 23,0	2 4,5	2 46,5
	5	.....	.....	1 21,5	.....	.....	1 23,5	.....	.....
	7	.....	.....	1 25,5	.....	.....	1 23,0	.....	.....
	9	.....	.....	1 24,5	.....	.....	1 20,5	.....	.....
	12	2 45,0	.....	1 22,5	.....	.....	1 24,5	.....	2 47,0
	13	2 44,0	.....	1 22,0	.....	.....	1 22,5	.....	2 46,5
	14	2 49,5	.....	1 24,5	.....	.....	1 23,0	.....	2 47,5
	15	2 45,5	.....	1 25,5	.....	.....	1 23,5	.....	2 45,5
	16	2 46,0	.....	1 23,0	.....	.....	1 24,5	.....	2 46,5
	16	2 45,0	.....	1 23,0	.....	.....	1 23,5	.....	2 46,0
	17	2 45,0	.....	1 21,5	.....	.....	1 23,0	.....	2 45,5
	18	2 45,0	.....	1 21,0	.....	.....	1 22,0	.....	2 46,0
	19	2 48,0	.....	1 25,5	.....	.....	1 22,0	.....	2 44,0
	20	2 46,0	.....	1 22,0	.....	.....	1 25,0	.....	2 48,0
	21	2 46,5	.....	1 23,0	.....	.....	1 22,5	.....	2 46,5
	22	2 49,5	.....	1 25,0	.....	.....	1 24,0	.....	2 46,5
	23	2 47,0	.....	1 23,0	.....	.....	1 23,5	.....	2 47,0
	24	2 45,5	.....	1 22,5	.....	.....	1 24,0	.....	2 44,5
	24	2 48,0	.....	1 23,5	.....	.....	1 24,0	.....	2 48,0
	25	2 46,5	.....	1 22,5	.....	.....	1 21,5	.....	2 43,5
	26	2 48,0	.....	1 25,0	.....	.....	1 22,0	.....	2 46,0
	26	2 48,0	.....	1 24,0	.....	.....	1 23,0	.....	2 45,5
Mean..		2 46,46	2 4,55	1 23,25	0 41,87	0 41,25	1 23,14	2 4,95	2 46,29

Taking the differences we find that the Pole Star passed from

R. D.		R. D.		s.	
2 0	East to	1 50	East	41,89	of time.
1 50	——	1 00	—	41,30	——
1 00	——	0 50	—	41,38	——
0 50	——	0 00	—	41,87	——
0 00	——	0 50	West	41,25	——
0 50	——	1 00	—	41,89	——
1 00	——	1 50	—	41,81	——
1 50	——	2 00	—	41,34	——

Hence we may safely assume the threads of the screw to be equidistant, and assuming the N.P.D. of the Pole Star to be 1° 34′ 46″, the value of each revolution from the Mean of 32 Observations..... = 34″,394
In 1831.....10 —— ..... = 34″,277
hence we may safely assume the value of each revolution of the screw at 34″,366.

ERROR OF LEVEL OF THE TRANSIT AXIS.

In the Results of Observations Vol. I for 1831, it is stated that from 80 times inverting the Transit Axis, the diameter of the illuminating pivot apparently exceeded that of the other pivot 0″,58: producing an error of level to the amount 0″,29. In the reduction of the Observations in 1831, the correction due to this was included with the correction due to the error registered by the spirit level in the column for that purpose; following this plan the observations of 1832, were reduced, and those for 1833 far advanced, when, with a view to determine if this result remained constant (of which I had some doubt by reason of disagreement in the places of Polaris and δ Ursæ Minoris,) I made the following Observations.

Cross Level East and Illuminating Pivot.

1833	Inversions.	East.		West.	Illuminating Pivot.
		″		″	″
November 12	Mean of 10 Obj. Glass	N. 6,51	W. Obj. Glass	S. 26,37	W. + 9,93
13	—— 6 ——	S. 2,30	„ ——	N. 20,55	— + 9,13
14	—— 4 ——	S. 2,64	„ ——	N. 24,21	— + 10,78
December 20	—— 10 ——	N. 11,07	E. ——	S. 13,31	— + 12,19
20	—— 10 ——	N. 11,97	„ ——	S. 13,94	— + 12,95
25	—— 8 ——	S. 10,07	„ ——	N. 14,60	— + 12,33
25	—— 4 ——	N. 5,46	„ ——	S. 16,53	— + 11,00

Taking the Mean, it appears that in the year 1833 or at 1833, 93 the illuminating pivot exceeded the other pivot to the amount 11″,37, whereas at 1831, 27 it exceeded it only 0″,58.

This enormous and extraordinary wear of the one pivot above the other, is, as far as concerns the construction of the pivots and Y's, altogether unaccountable; on inspecting the former which are of Bell Metal, it is quite evident that the unilluminating pivot has worn more than the other pivot, the appearance of either being such as would result from their having been turned in a lathe; the latter which are of brass, are not more worn than might be reasonably expected; in lieu of a line of contact on each face as exhibited on the erection of this Instrument in 1831; a groove of about, 14 Inches broad has been worn by the action of the pivots; to account for this change, no circumstances offer beyond the Instrument having been kept hard at work, and that too during three years of unusual heat and dust, in which, notwith-

standing the pivots were constantly kept covered by the slips of Brass* for the purpose; it was found necessary to wipe them and apply fresh oil on every second day at farthest but more frequently every day.

With a view to discover if the pivots continued of a circular figure: I attached to the Stone Pier a microscope (into the focus of which I had fitted a pair of lines at right angles to each other) and watched the motion of an exceedingly small point which I had made in a slip of ivory and cemented to the end of the pivot; when placed on the eastern or illuminating pivot and adjusted to its axis, the centre of the dot in every position of the Instrument remained perfectly bisected by the cross wires; when placed upon the Western pivot however the bisection was not so satisfactory; having failed after much loss of time to attach the dot opposite to the center of the axis of this pivot I allowed it to remain at a distance of about ,001 + from the centre and estimated the value of the rectangular co-ordinates of the centre of the dot from the intersection of the cross lines in tenths of the diameter of the dot as follows:

	N.P.D.	The dot was situated.				Direction of the Telescope.
No. 1	at 347	to the North	,00	and 0,05	too high	North Horizon.
2	— 0	——	,10	— ,10	——	Pole.
3	— 13	——	,15	— ,25	——	,,
4	— 30	——	,25	— ,30	——	,,
5	— 50	——	,30	— ,35	——	,,
6	— 76	——	,30	— ,45	——	Zenith.
7	— 95	——	,28	— ,52	——	,,
8	— 120	——	,20	— ,55	——	,,
9	— 140	——	,09	— ,58	——	,,
10	— 160	——	,01	— ,65	——	South Horizon.
11	— 180	South	,03	— ,66	——	South Pole.
12	— 200	——	,15	— ,65	——	,,
13	— 220	——	,20	— ,55	——	,,
14	— 240	——	,25	— ,50	——	,,
15	— 257	——	,30	— ,50	——	Nadir.
16	— 280	——	,33	— ,45	——	,,
17	— 300	——	,30	— ,35	——	,,
18	— 320	——	,16	— ,23	——	,,
19	— 347	——	,00	— ,05	——	North Horizon.

* It is much to be regretted that no better means has yet offered for protecting this part of the Instrument from dust; in this climate, where for several days together occasionally, the air is saturated with sand, the want of a better cover is much felt.

the above which are the mean of several readings or rather estimations, can safely be depended upon to ,03 or ,04; the diameter of the dot was determined from a very neatly engraved scale of converging lines to be ,0025 Inches; assuming the above numbers and a large scale, we may now trace the curve described by any point on the axis of the pivot see fig. 1; and comparing the above numbers with the natural sines of the angles, we can determine the circle A. B. C. which agrees best with all the measures, from whence it appears that *the deviation of the pivot from a circular figure does not entail an error in any direction to the amount of one second of space* beyond which limits the means at my command do not enable me to offer an opinion or proof.

We will now enquire to what amount the Right Ascensions of the Planets and fixed Stars for the years 1831, 1832 and 1833, are effected by this unforseen change in the pivots; In the first place we must recollect that the above excess of the illuminating pivot over the other is only an *apparent* one, for we have $2{,}82\ (r - r') = 11''{,}37$ or the true difference of the radii of the pivots $r - r' = 4''{,}03 = {,}00058$ Inches; and the error of level thus produced $= (r - r')$ cosec. $\frac{90°}{z} = 5''{,}68$. Now if we diminish this amount by $0''{,}29$ (the error already allowed for) we obtain the error which remains to be allowed $= 5''{,}39$ which produces corrections to be applied to the reduced Right Ascensions as follows:

	°	′						
							″	
For	1	35	N.P.D.	above the Pole	+	3,30	in Time.	
	1	35	——	below the Pole	—	2,60	——	
	3	25	——	above the Pole	+	1,71	——	
	3	25	——	below the Pole	—	1,05	——	
	10	0	——	above the Pole	+	0,81	——	
	20	0	——	——	+	0,57	——	
	30	0	——	——	+	0,49	——	
	40	0	——	——	+	0,45	——	
	50	0	——	——	+	0,42	——	
	60	0	——	——	+	0,39	——	
	70	0	——	——	+	0,37	——	
	80	0	——	——	+	0,36	——	
	90	0	——	——	+	0,34	+ 0,34	
	100	0	——	——	+	0,33	——	
	110	0	——	——	+	0,31	——	
	120	0	——	——	+	0,29	——	
	130	0	——	——	+	0,27	——	
	140	0	——	——	+	0,25	——	
	150	0	——	——	+	0,21	——	
	160	0	——	——	+	0,12	——	
	165	0	——	——				

On consulting the method employed in reducing the observations of transits at Pages 31 et seq. of Vol. I, it will readily appear, that for Stars situated above 30° or 40° from the Pole, the greater part of the above corrections will be lost sight of in the determination of the Error of the Clock; thus, suppose (as actually has been the case in the reduction of the Observations for 1832 and 1833) that the Stars selected for the determination of the clock's error be situated between the limits of 65° and 115° of North Polar Distance; in this case the error of the Clock will be, instead of e, some number between $e + ,30$ and $e + ,38$; by assuming $e + ,34$ we are liable to an error 0″,04, i. e. this is the largest error we can possibly commit by such an assumption; but in 9 cases out of 10, I find the error does not exceed the half of this amount. Subtracting then 0″,34 from the above numbers we obtain the corrections proper to be applied to the reduced Right Ascensions made towards the end of the year 1833; thus in the case of α Lyræ; N.P.D. 51° 22′; whose A.R. we will suppose to have been determined towards the end of the year 1833; (the Clock error having been determined from a comparison of the observed places of Equatoreal Stars with the Greenwich Catalogue) we have to apply the correction ,42 — ,34 = ,08: and for the Star α Cephei N.P.D. 28° 7′ we have to apply ,50 — ,34 = ,16 &c. These corrections it must be recollected apply only to observations made towards the end of 1833, for dates antecedent to this (on the supposition that the wear of the one pivot above the other has been uniformly accelerated with the time) it will be proper to apply corresponding smaller corrections as follows:

Corrections to be applied to the Reduced A.R.

	1831,5	1832,0	1832,5	1833,0	1833,5	1833,93
° ′	″	″	″	″	″	″
1 35 A. P.	+ 0,15	+ 0,73	+ 1,30	+ 1,87	+ 2,45	+ 2,96
1 35 B. P.	— 0,12	— 0,56	— 1,00	— 1,44	— 1,87	— 2,26
3 25 A. P.	+ 0,07	+ 0,34	+ 0,60	+ 0,87	+ 1,13	+ 1,37
3 25 B. P.	— 0,04	— 0,18	— 0,32	— 0,46	— 0,59	— 0,71
10 0 A. P.	+ 0,03	+ 0,12	+ 0,21	+ 0,30	+ 0,39	+ 0,47
20 0 —	+ 0,01	+ 0,06	+ 0,10	+ 0,14	+ 0,19	+ 0,23
30 0 —	+ 0,01	+ 0,04	+ 0,07	+ 0,10	+ 0,13	+ 0,15
40 0 —	+ 0,01	+ 0,03	+ 0,05	+ 0,07	+ 0,09	+ 0,11
50 0 —	0,00	+ 0,02	+ 0,03	+ 0,05	+ 0,07	+ 0,08
60 0 —	0,00	+ 0,01	+ 0,02	+ 0,03	+ 0,04	+ 0,05
70 0 —	0,00	+ 0,01	+ 0,01	+ 0,02	+ 0,03	+ 0,03
80 0 —	0,00	0,00	+ 0,01	+ 0,01	+ 0,02	+ 0,02
90 0 —	0,00	0,00	0,00	0,00	0,00	0,00
100 0 —	0,00	0,00	0,00	0,00	0,00	— 0,01
110 0 —	0,00	0,00	— 0,01	— 0,02	— 0,02	— 0,03
120 0 —	0,00	— 0,01	— 0,02	— 0,03	— 0,04	— 0,05
130 0 —	0,00	— 0,01	— 0,03	— 0,04	— 0,06	— 0,07
140 0 —	0,00	— 0,02	— 0,04	— 0,06	— 0,08	— 0,09
150 0 —	— 0,01	— 0,04	— 0,06	— 0,09	— 0,11	— 0,13
160 0 —	— 0,01	— 0,05	— 0,10	— 0,14	— 0,18	— 0,22

If the computation of the observations for 1832 and 1833 had not been so nearly completed, the above corrections would as heretofore have been included with the ordinary correction for Level, but the case being otherwise, it will be found as I have already shewn, that an error of comparatively little importance is committed in employing the above table, where we find, that for observations in 1831 for Stars situated between 40° and 140° of N.P.D. no correction need be applied, and that for observations in 1832 and 1833 situated between these limits by employing the columns 1832,5 and 1833,5 respectively we are liable to errors which in no case exceed ,02″. And further that up to the limits of 10° of N.P.D. it will be found sufficient to suppose the observations to have been made at that time of the year when the Star whose place we desire to correct passes the meridian at 9 o'clock at night; for Stars situated within this limit, (of which there are very few cases) the month and day must be taken into the account. In the reductions of the observations of the Sun, Moon and Planets for 1832 and 1833, I *had* employed the Errors of Level which now follow together with 0″,29 for inequality of the pivots, these have consequently been since corrected by the above table, whereas the places of the fixed Stars are set down under the respective years in which they were observed *uncorrected*; the correction being taken account of in obtaining the column *mean* as will be further explained in the proper place.

ERROR OF COLLIMATION.

FROM inverting the Transit Instrument 23 times in the month of April 1831, it appeared that the South meridian mark was distant from the meridian mark to the North, reckoning towards the West; 180° + 26″,97; this number was accordingly employed in computing the error of Collimation for this year: towards the latter end of 1832, being about to compute the Errors of Collimation for the observations of that year, I set to work to verify the angle above measured as follows:

			Illuminating Pivot.					
			East.		West.		Collimation of	
		No. of Invers.	North mark.	South mark.	North mark.	South mark.	North mark.	South mark.
1832			″	″	″	″	″	″
Oct.	18..	10	..39,04 W.	.. 71,97 E.	.. 47,58 W.	.. 63,65 E.	.. 4,27 W.	.. 4,16

1833												
			"		"		"		"		"	
Jan.	5..	10	..38,94	W.	.. 64,10	— E.	39,39	W.	.. 63,50	E.	.. 0,22	W. .. 0,30
	16..	10	..37,12	—	.. 65,75	—	.. 40,28	—	.. 62,87	—	.. 1,58	— .. 1,44
	18..	10	..35,91	—	.. 67,11	—	.. 42,17	—	.. 62,07	—	.. 3,13	— .. 2,52

And to see if this continued unaltered.

			"		"		"		"		"	
Dec.	25..	10	..32,92	W.	.. 61,40	E.	.. 36,59	W.	.. 56.94	E.	.. 1,83	W. .. 2,23
	26..	10	..33,83	—	.. 62,78	—	.. 36,22	—	.. 59,90	—	.. 1,20	— .. 4,44
	28..	10	..33,71	—	.. 61,93	—	.. 37,26	—	.. 57,77	—	.. 1,78	— .. 2,08

If the Instrument were free from Error of Collimation the readings of Illuminating end East would be identical with those of Illuminating end West and would be as follows:

			Illuminating Pivot E. or W.		
			North mark.	South mark.	Angular Distance. = 180° +
1832			"	"	"
October	18	....	43,31 W.	.... 67,81 E.	 24,50
1833					
January	5	....	39,16 —	.... 63,80 —	 24,64
	16	....	38,70 —	.... 64,31 —	 25,61
	18	....	39,04 —	.... 64,59 —	 25,55

And for the second series.

			"		"		"
December	25	....	34,75 W.	....	59,17 E.	....	24,42
	26	....	35,02 —	....	61,34 —	....	26,32
	28	....	35,48 —	....	59,85 —	....	24,37

Taking the mean it appears the South meridian mark was distant from the North meridian mark, reckoning to the *West about ;*

at the End of the year 1832 = 180° + 25″,07
—— — ——— 1833 = 25″,04

For the present I will postpone the discussion as to *when* the alteration of the angular distance between the two marks from 26″,97 to 25″,07 took place, and proceed to state, that the numbers which now follow in computing the corrections for Collimation for the years 1832 and 1833, have been employed, using 25″,07 for the angular distance together with 0″,29 for diurnal aberration.

1832		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
January	1	+ 19,46	— 28,68	— 9.22	+ 7,92		
	2	18,87	32 82	13,95	5,56		
	3	18,53	34,44	15,91	4,58		
	4		32 92				
	5	19,66	32,75	13 09	5,99		
	6	18,87	32,96	14 09	5,49		
	7	21,36	33,44	12,08	6.49		
	8	20,42	30,93	10 51	7,28		
	9	20,96	30,98	10,02	7,52		
	10	21,13	33,27	12,14	6,47	Mean of 10 + 6″,53	
	11	21,65	30,83	9,18	7.94		
	12	21,31	31,24	9,93	7.57		
	13	21,72	30,76	9,04	8,01		
	14	21,13	29.99	8.86	8,10		
	15	21,60	29,24	7.64	8 71		
	16	21,45	30,25	8.80	8,14		
	17	21,48	29,41	7,93	8,57		
	18	21,96	30,35	8,39	8,34		
	19	21,48	29,38	7,90	8,58		
	24	31,86	.....	.....	.....	Mean of 8 + 8″,25	Found the fourth wire broken, a new set were put in by Mr. Law.
	25	31,41	17,18				
February	3	30,42	22,78	+ 7,64	16,35	.....	One of the moveable wires found broken, which not being required was consequently not replaced.
	4	29,58	19.24	10,34	17 70		
	5	29,34	21,52	7,82	16 44		
	6	29,75	20,72	9,03	17,05		
	7	30,18	18,39	11,79	18,43		
	8	31,52	18,43	13,09	19,08		
	9	32,21	17,70	14,51	19,79		
	10	31,30	17,56	13.74	19,40		
	11	32,65	16,63	16,02	20,54		
	12	29,58	21,72	7,86	16,46		
	13	29,92	20,96	8.96	17,01		
	14	29,72	21,10	8,62	16,84		
	15	29,89	21,48	8,41	16.74		
	16	29,61	21.65	7,96	16,51		
	17	28.44	22,89	5,55	15,31		
	18	29,71	22,58	7,13	16,10	.....	I returned to Madras from Calcutta, where I had been assisting in the measurement of a base line.
	19	27.98	22.41	5,57	15,32		
	20	29,48	21.65	7,83	16,45		
	21	30,93	20,72	10,21	17,64		
	22	31,89	21,03	10,86	17,96		
	23	28.92	22,65	6,27	15,67		
	24	29,65	21,92	7,73	16,40		
	25	31,10	20.59	10,51	17,79		
	26	30,96	21,21	9,75	17,41	Mean of 25 + 17″,26	
	27	30,73	21,41	9,32	17,20		
	28	32,13	21,55	10,58	17,82		
	29	31,96	21,48	10,48	17,78		

1832		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
March	1	+ 32,20	— 21,03	+ 11,17	+ 18,12		
	2	32,27	20,69	11,58	18,32		
	3	32,17	21,03	11,14	18,11		
	4	31,83	20,65	11,18	18,13		
	5	31,10	21,65	9,45	17,26		
	6	31,30	21,20	10,10	17,58		
	7	31,44	20,90	10,54	17,81		
	8	30,96	21,24	9,72	17,39		
	9	32,03	20,83	11,20	18,13		
	10	33,16	21,48	11,68	18,36		
	11	32,38	21,93	10,45	17,77		
	12	31,58	21,65	9,93	17,50		
	13	31,51	21,65	9,86	17,47		
	14	31,30	21,55	9,75	17,41		
	15	31,03	21,45	9,58	17,33		
	16	30,80	20,93	9,87	17,47		
	17	31,44	20,83	10,61	17,84		
	18	31,86	20,76	11,10	18,08		
	19	31,76	21,03	10,73	17,90		
	20	31,17	21,31	9,86	17,46	Mean of 23	
	21	30,76	21,45	9,31	17,19	+ 17″,75	
	22	30,59	23,10	7,49	16,28		
	23	30,08	23,69	6,39	15,73		
	24	30,49	23,59	6,90	15,99		
	25	30,59	23,38	7,21	16,14		
	26	30,46	22,41	8,05	16,56		
	27	30,62	23,72	6,90	15,99		
	28	30,62	22,41	8,21	16,64		
	29	30,25	22,55	7,70	16,38		
	30	30,93	23,03	7,90	16,48		
	31	29,99	22,20	7,79	16,43	Mean of 11	
April	1	30,42	22,34	8,08	16,58	+ 16″,29	
	2	28,43	24,43	4,00	14,53		
	3	27,02	26,56	0,46	12,77	.....	Re-examined and found correct.
	4	26,77	27,05	— 0,28	12,39		
	5	28,01	25,16	+ 2,85	13,96		
	6	29,82	23,66	6,16	15,61		
	7	29,82	23,93	5,89	15,48		
	8	30,16	23,38	6,78	15,92		
	9	30,49	23,03	7,46	16,26		
	10	30,66	24,64	6,02	15,54		
	11	30,28	24,13	6,15	15,61		
	12	29,58	23,96	5,62	15,34		
	13	29,20	24,71	4,49	14,78		
	14	29,34	24,09	5,25	15,16		
	15	29,68	23,69	5,99	15,53		
	16	29,68	24,09	5,59	15,33		
	18	30,49	24,85	5,64	15,35		
	19	30,53	25,06	5,47	15,27		
	20	30,07	25,12	4,95	15,01		
	21	30,53	24,64	5,89	15,48		
	22	30,16	24,92	5,24	15,15		
	23	30,23	24,82	5,41	15,24		

OBSERVATIONS FOR LEVEL.

1832		Illuminating Pivot.	Error from Level.	Remarks.
	D. H.		s.	
Jan.	2 1	East	5,24 E.	
	4 1	....	5,26 ..	
	6 1	....	5,50 ..	
	8 1	....	5,18 ..	
	10 1	....	4,86 ..	
	12 1	....	5,05 ..	
	14 1	....	5,14 ..	
	16 1	....	5,43 ..	
	18 1	....	5,43 ..	
	20 1	....	5,50 ..	
	24 1	....	5,71 ..	
	26 1	....	5,97 ..	
	28 1	....	6,17 ..	
	30 1	....	6,31 ..	
Feb.	1 1	....	5,52 ..	
	3 1	....	6,06 ..	
	5 1	....	5,58 ..	
	7 1	....	6,20 ..	
	9 1	....	5,61 ..	
	11 1	....	5,63 ..	
	13 1	....	5,67 ..	
	16 1	....	4,89 ..	
	18 1	....	4,47 ..	
	20 1	....	4,81 ..	
	22 1	....	4,78 ..	
	24 1	....	4,48 ..	
	27 1	....	5,10 ..	
	29 1	....	5,06 ..	
March	2 1	....	5,69 ..	
	4 1	....	5,02 ..	
	6 1	....	5,24 ..	
	8 1	....	3,97 ..	
	10 1	....	3,41 ..	
	12 1	....	4,56 ..	
	14 1	....	4,35 ..	
	16 1	....	5,25 ..	
	18 1	....	4,69 ..	
	20 1	....	4,88 ..	
	22 1	....	4,92 ..	
	24 1	....	5,56 ..	
	26 1	....	6,78 ..	
	28 1	....	4,07 ..	
	30 1	....	4,23 ..	
April	1 1	....	4,60 ..	

1832		Illuminating Pivot.	Error from Level.	Remarks.
	D. H.		s.	
April	3 1	East	4,47 E.	
	5 1	....	4,45 ..	
	7 1	....	4,86 ..	
	9 1	....	4,60 ..	
	11 1	....	4,50 ..	
	13 1	....	5,04 ..	
	15 1	....	5,12 ..	
	17 1	....	4,46 ..	
	19 1	....	4,55 ..	
	23 1	....	4,14 ..	
	25 1	....	3,59 ..	
	27 1	....	4,33 ..	
	30 1	....	4,11 ..	
May	2 1	....	5,26 ..	
	4 1	....	4,80 ..	
	7 1	....	5,25 ..	
	9 1	....	4,58 ..	
	11 1	....	3,85 ..	
	13 1	....	4,80 ..	
	15 1	....	4,43 ..	
	17 1	....	3,92 ..	
	19 1	....	4,27 ..	
	21 1	....	4,62 ..	
	23 1	....	3,36 ..	
	25 1	....	4,94 ..	
	27 1	....	4,73 ..	
	29 1	....	4,20 ..	
	31 1	....	4,21 .	
June	2 1	....	3,42 ..	
	4 1	....	2,92 ..	
	6 1	....	2,28 ..	
	8 1	....	2,24 ..	
	10 1	....	2,40 ..	
	12 1	....	1,92 ..	
	14 1	....	2,11 ..	
	16 1	....	3,35 ..	
	18 1	....	2,58 ..	After this observation I adjusted the level.
	22 1	....	3,10 ..	
	24 1	....	3,13 ..	
	28 1	....	2,57 ..	
	30 1	....	2,75 ..	
July	2 1	....	1,82 ..	
	5 1	....	2,36 ..	Continued cloudy weather.

N. B.—The Pages 9, 10, 11, and 12 should have followed after line 20 of Page 13.

1832		Illuminating Pivot.	Error from Level.	Remarks.
	D. H.		s.	
July	8 1	East	5,37 E.	I adjusted the level before the above reading.
	16 1	....	7,65 ..	
	20 1	....	7,67 ..	
	24 1	....	6,51 ..	
	26 1	....	5,26 ..	
	28 1	....	4,30 ..	
	30 1	....	4,76 ..	
Aug.	1 1	....	5,49 ..	
	3 1	....	5,71 ..	
	5 1	....	5,77 ..	
	11 1	....	6,07 ..	
	13 1	....	5,81 ..	
	17 1	....	6,53 ..	
	19 1	....	6,60 ..	
	21 1	....	6,21 ..	I re-examined this at 2 P. M. and found it correct.
	23 1	....	6,47 ..	
	25 1	....	10,61 ..	
	27 1	....	11,75 ..	
	29 1	....	11,72 ..	
	31 1	....	10,93 ..	
Sept.	2 1	....	11,02 ..	
	4 1	....	10,43 ..	
	6 1	....	11,95 ..	
	8 1	....	11,08 ..	
	10 1	....	11,55 ..	
	12 1	....	11,24 ..	
	15 1	....	11,50 ..	
	20 1	....	11,48 ..	
	22 1	....	11,97 ..	
	24 1	....	11,43 ..	
	26 1	....	11,55 ..	
	28 1	....	11,85 ..	
	30 1	....	12,06 ..	
Oct.	2 1	....	12,32 ..	
	4 1	....	12,14 ..	
	6 1	....	11,88 ..	
	9 1	....	12,05 ..	
	12 1	....	12,46 ..	
	14 1	....	12,18 ..	After the above was registered I lowered the East end 16s.
	19 1	....	17,48 ..	
	19 2	....	1,12 ..	
	23 1	....	1,63 ..	
	26 1	....	1,54 ..	
	28 1	....	1,50 ..	
	30 1	....	1,57 ..	
Nov.	1 1	....	0,60 ..	
	3 1	....	1,18 ..	
	5 1	....	0,86 ..	
	8 1	....	0,41 ..	
	10 1	....	0,32 ..	
	12 1	....	0,81 ..	
	14 1	....	1,02 ..	
	16 1	....	1,06 ..	
	21 1	....	1,77 ..	
	23 1	....	1,35 ..	

1832		Illuminating Pivot.	Error from Level.	Remarks.
	D. H.		s.	
Nov.	27 1	East	1,36 E.	
Dec.	1 1	....	1,19 ..	
	3 1	....	1,05 ..	
	6 1	....	1,68 ..	
	8 1	....	0,50 ..	
	10 1	....	0,72 ..	
	13 1	....	0,34 ..	
	16 1	....	0,89 ..	
	18 1	....	0,71 ..	
	21 1	....	1,23 ..	
	24 1	....	0,97 ..	
	27 1	....	1,31 ..	
	30 1	....	0,72 ..	
1833				
Jan.	2 1	East	0,35 E.	
	4 1	....	0,30 ..	
	7 1	....	1,09 ..	
	9 1	....	1,06 ..	
	11 1	....	0,66 ..	
	14 1	....	1,45 ..	
	17 1	....	3,48 W.	
	19 1	....	3,38 ..	
	21 1	....	3,23 ..	
	23 1	....	3,87 ..	
	25 1	....	4,12 ..	
	27 1	....	4,14 ..	
	29 1	....	4,61 ..	
	31 1	....	5,27 ..	
Feb.	2 1	....	4,68 ..	
	4 1	....	4,99 ..	
	6 1	....	4,97 ..	
	8 1	....	5,60 ..	
	10 1	....	5,58 ..	
	13 1	....	5,70 ..	
	15 1	....	5,59 ..	
	18 1	....	5,79 ..	
	20 1	....	5,38 ..	
	25 1	....	5,32 ..	
	27 1	....	5,18 ..	
March	1 1	....	6,50 ..	
	4 1	....	6,17 ..	
	6 1	....	6,28 ..	
	8 1	....	5,81 ..	
	10 1	....	5,12 .	
	12 1	....	4,74 ..	
	15 1	....	5,29 ..	
	18 1	....	5,63 ..	
	20 1	....	5,19 ..	
	23 1	....	6 48 ..	
	25 1	....	6,55 ..	
	27 1	....	7,16 ..	
	29 1	....	6,84 ..	
April	1 1	....	7,50 ..	
	3 1	....	8,37 ..	

1833		Illuminating Pivot.	Error from Level.	Remarks.
	D. H.		s.	
April	5 1	East	8,19 W.	
	7 1	....	7,67 ..	
	9 1	....	8,93 ..	
	15 1	....	8,35 ..	
	17 1	....	8,68 ..	
	19 1	....	8,33 ..	
	21 1	....	8,19 ..	
	23 1	....	8,17 ..	
	26 1	....	8,33 ..	
	29 1	....	8,02 ..	
May	2 1	....	7,45 ..	
	4 1	....	7,66 ..	
	6 1	....	8,46 ..	
	8 1	....	7,22 ..	
	11 1	....	7,57 ..	
	13 1	....	6,38 ..	
	18 1	....	6,57 ..	
	23 1	....	7,29 ..	
	25 1	....	7,59 ..	
June	4 1	....	7,95 ..	
	8 1	....	6,96 ..	
	10 1	....	6,76 ..	
	12 1	....	6,10 ..	
	14 1	....	5,74 ..	
	20 1	....	4,61 ..	
	22 1	....	6,39 ..	
	24 1	....	4,65 ..	
	28 1	....	4,05 ..	
	30 1	....	4,55 ..	
July	4 1	....	3,37 ..	
	8 1	....	3,01 ..	
	14 1	....	2,79 ..	
	17 1	....	1,96 ..	
	20 1	....	1,10 ..	
	24 1	....	1,11 ..	
	26 1	....	1,76 ..	
	28 1	....	1,60 ..	
Aug.	1 1	....	1,23 ..	
	3 1	....	1,31 ..	
	5 1	....	1,06 .	
	7 1	....	0,12 ..	
	10 1	....	0,32 E.	
	13 1	....	0,94 ..	
	15 1	....	0,88 ..	
	19 1	....	1,78 ..	
	21 1	....	2,97 ..	Heavy rain with thunder and lightning.
	24 1	....	3,86 ..	
	30 1	....	4,55 ..	

1833		Illuminating Pivot.	Error from Level.	Remarks.
	D. H.		s.	
Sept.	3 1	East	3,97 E.	
	6 1	....	4,36 ..	
	9 1	....	4,56 ..	
	11 1	....	5,81 ..	
	14 1	....	7,30 ..	
	16 1	....	7,84 ..	
	18 1	....	7,18 ..	
	21 1	....	8,31 ..	
	25 1	....	8,64 ..	
	27 1	....	8,95 ..	I raised the West end 10s.
	28 1	....	2,96 W.	
	30 1	....	4,06 ..	
Oct.	3 1	....	4,29 ..	
	5 1	....	3,50 ..	
	7 1	....	4,63 ..	
	9 1	....	4,25 ..	
	11 1	....	3,50 ..	
	14 1	....	3,65 ..	
	16 1	....	3,45 ..	
	19 1	....	4,07 ..	
	21 1	....	3,91 ..	
	23 1	....	3,54 ..	Rainy weather no observations.
	31 1	....	2,71 ..	
Nov.	7 1	....	0,20 E.	
	9 1	....	0,09 ..	
	13 7	....	.....	Inverted the axis 6 times.
	14 1	....	.....	Do. 4 times.
	14 2	....	0,25 E.	
	18 1	....	0 85 W.	
	20 1	....	0,70 ..	
	22 1	....	0,28 ..	
	24 1	....	1,15 ..	
	29 1	....	1,71 ..	
Dec.	2 1	...	1,89 ..	
	4 1	....	1,98 ..	
	7 1	....	1,84 ..	
	9 1	....	0,67 ..	
	11 1	....	2,22 ..	
	13 1	....	1,70 ..	
	15 1	....	1,96 ..	
	19 1	....	1,78 ..	
	20 1	....	.....	Inverted the axis 20 times.
	21 1	....	1,08 ..	
	23 1	....	1,34 ..	
	25 0	....	.....	Inverted the axis several times.

Since the above was put to Press it has occured to me that some notion may we formed of the figure of the Pivots by noting the indications of the spirit level when applied to the axis under the various directions which the Telescope is capable of assuming when supporting the spirit level; from the

mean of four very careful readings agreeing very well *inter se*, the following were obtained.

Position of the Telescope.		Error of Level.		Position of the Telescope.		Error of Level.
°		″		°		″
290	N.P.D.	1,95 W.	....	110	N.P.D.	2,70 W.
300	——	2,00 —	....	120	——	2,75 —
310	——	1,80 —	....	130	——	2,20 —
320	——	1,45 —	....	140	——	1,75 —
330	——	1,00 —	....	150	——	1,50 —
340	——	1,05 —	....	160	——	1,80 —
350	——	2,55 —	....	170	——	2,05 —
360	——	2,60 —	....	180	——	2,45 —
10	——	2,50 —	....	190	——	2,70 —
20	——	2,50 —	....	200	——	2,35 —
30	——	2,35 —	....	210	——	2,20 —
40	——	2,10				

It will readily be understood that for the degrees of North Polar Distance intermediate between 40° and 110°, and between 210° and 290°, the spirit level cannot be applied; the results we have obtained, on the whole, are as accordant as might be expected; for assuming the mean of the above (2″,10) as the true Error of Level, the greatest error amounts to 1″,1.

1832		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
April	24	+ 30,20	— 24,78	+ 5,42	+ 15,25		
	25	30,25	24,71	5,54	15,30		
	26	30,49	24.61	5,88	15,47		
	27	30,35	24,99	5,36	15,21		
	28	30,32	24,99	5,33	15,20		
	29	30,53	25,12	5,41	15,24		
	30	30,16	25,09	5,07	15,07		
May	1	30,35	25,19	5,16	15,11		
	2	30,28	25,41	4,87	14,97		
	3	30,52	24,92	5,60	15,33		
	4	30,32	25,12	5,20	15,13		
	5	30,42	25,26	5,16	15,11		
	6	30,45	25,34	5,11	15,09		
	7	29,98	25,26	4,72	14,89		
	8	30,15	25,37	4,78	14,92		
	9	29,65	25,44	4,21	14,64		
	10	30,13	25,44	4,69	14,88	Mean of 39	
	11	30,22	25,51	4,71	14,89	+ 15″,06	
	12	31,10	23,65	7,45	16,26		
	13	32,10	21,82	10,28	17,67		
	14	32,17	21,89	10,28	17,67		
	15	31,86	22,40	9,42	17,25		
	16	31,79	22,09	9,70	17,38		
	17	32,21	22,01	10,20	17,63		
	18	33,48	22,41	11,07	18,07	.....	The Micrometer was taken out and cleaned, but no derangement appears to have thence resulted.
	19	33,13	22,02	11,11	18,09		
	20	33,16	21,96	11,20	18,13		
	21	32,82	22,34	10,48	17,78		
	22	32,34	22,48	9,86	17,47		
	23	31,62	23,03	8,59	16,83		
	24	31,69	22,68	9,01	17,04		
	25	31,44	22,85	8,59	16,83		
	26	31,76	22,71	9,05	17,06		
	27	31,69	22,51	9,18	17,12		
	28	31,93	22,68	9,25	17,16		
	29	31,90	22,55	9,35	17,21		
	30	31,90	22,48	9,42	17,24		
	31	32,13	22,02	10,11	17,59	Mean of 21	
June	1	32,52	21,72	10,80	17,93	+ 17″,40	
	2	32,52	21,59	10,93	18,00		
	3	32,62	21,45	11,17	18,12		
	4	32,65	21,38	11,27	18,17		
	5	32,72	21,45	11,27	18,17		
	6	32,86	21,72	11,14	18,10		
	7	33,03	21,13	11,90	18,48		
	9	33,20	21,13	12,07	18,57		
	10	33,02	21,52	11,50	18,28		
	11	33,06	21,45	11,61	18,34		
	12	33,06	21,20	11,86	18,47		
	13	32,75	20,96	11,79	18,43		
	14	32,41	21,03	11,38	18,22		
	15	32,72	21,20	11,52	18,29		

1832		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
June	16	+ 33,16	— 21,13	+ 12,03	+ 18,55		
	17	33,06	21,20	11,86	18,47		
	18	32,52	20,96	11,56	18,31		
	19	32,79	21,41	11,38	18,22		
	20	32,65	20,45	12,20	18,63		
	21	32,82	21,13	11,69	18,38		
	22	32,86	21,31	11,55	18,31		
	24	32,72	20,99	11,73	18,40		
	25	32,68	20,56	12,12	18,59		
	27	32,72	20,96	11,76	18,41		
	28	32,62	20,69	11,93	18,50		
	29	32,62	20,69	11,93	18,50	Mean of 26	
	30	32,62	20,59	12,03	18,55	+ 18″,37	
July	1	32,79	20,65	12,14	18,60		
	2	33,55	19,76	13,79	19,43		
	3	33,23	19,83	13,40	19,23		
	4	32,99	20,56	12,43	18,75		
	5	33,34	20,28	13,06	19,07		
	6	33,37	20,00	13,37	19,22		
	7	32,79	19,76	13,03	19,05		
	8	33,23	19,96	13,27	19,17	Mean of 8	
	14	33,06	.....	.....	.....	+ 19″,07	
	15	.....	.....	.....	.....	.....	I adjusted the Instrument more nearly to the Meridian.
	16	67,59	32,67	34,92	30,00		
	17	67,04	33,36	33 68	29,37		
	24	67,56	32,70	34,86	29,97		
	25	67,56	33,01	34,55	29.81		
	27	67,21	33,36	33,85	29,46		
	29	67,28	32,88	34,40	29,73		
	30	67,90	32,67	35,23	30,15		
	31	67,56	33,84	33,72	29,39		
August	1	67,38	33,01	34,37	29 72	Mean of 10	
	7	66,59	32,39	34,20	29,63	+ 29″,72	
	9	.....	.....	.....	.....	.....	Found the first wire bent I put in a new set.
	13	36,09	— 67,73	— 31,64	— 3,28		
	14	36,26	66,00	29,74	2,33		
	15	36,61	66,35	29,74	2,33		
	17	36,44	65,72	29,28	2,11		
	18	36,47	66,07	29,60	2,26		
	19	35,54	66,17	30,63	2,78		
	20	35,91	66,35	30,44	2,68		
	21	35,77	66,03	30,26	2,59		
	22	35,96	65,72	29,76	2,35		
	23	35,91	65,33	29,42	2,17	Mean of 10	
	24	36,16	64,86	28,70	1,82	— 2″,34	
	25	39,49	68,40	28,91	1,92		
	26	39,76	69,05	29,29	2,11		
	27	39.73	69,64	29.91	2,42		
	28	39,89	69,11	29,22	2,08		

1832	Azimuth of North mark.	Azimuth of South mark.	N. + S.	$\frac{N+S+25'',07}{2}$	Mean.	Remarks.
	"	"	"	"		
August 29	+ 39,69	— 68,91	— 29,22	— 2,08		
30	39,96	68,77	28,81	1,87		
31	40.21	67,49	27,28	1,11		
Sept. 1	40,21	67,50	27,29	1,11	Mean of 11	
2	40,07	67,15	27,08	1,01	— 1",93	
3	40,00	70,43	30,43	2,68		
4	39,59	70,29	30,70	2 81		
5	38,70	70,46	31,76	3,35		
6	38,52	70,94	32,42	3,67		
7	38,70	70,87	32,17	3,55		
8	38,81	71,11	32,30	3,61	Mean of 5	
9	38,87	71,18	32,31	3,62	— 3",56	
13	39,42	70,46	31,04	2,98		
14	40 38	.....	.....	.....	.....	Some trees obscured the South Mark.
15	39.15					
16	39 69					
18	39,32					
19	39,28					
20	39.42	70,77	31,35	3,14		
21	39,76	70,46	30,70	2,81		
22	39,83	70,67	30,84	2,88		
23	39,49	70 46	30,97	2,95		
24	39,15	70,29	31,14	3,03		
25	39,08	70,36	31,28	3,11		
26	39,35	70,53	31,18	3,05		
27	39,52	70,77	31,25	3,09		
28	39,87	70,63	30.76	2,85		
29	39,84	70,60	30,76	2,85		
30	39,35	70,19	30,84	2.89		
October 1	39,76	70,16	30,70	2,81		
3	39,89	70,87	30,98	2,95		
4	40.03					
5	39,76					
6	39,55	70,15	30,60	2,76		
7	39.93	70,49	30,56	2,75		
8	39,79	70,46	30,67	2,80		
9	39,76	70,63	30,87	2,90		
10	40,18	70,12	29,94	2,43		
11	40,18	69,66	29,48	2,21		
12	39,93	70,15	30,22	2,57		
13	39,59	70,35	30,76	2,85		
14	39,69	70,19	30,50	2,71	Mean of 24	
17	39,69	70,19	30,50	2,71	12",79	
19	39,15	72,80	33,65	4,29	.....	Inverted the Axis several times.
20	39,21	72,94	33,73	4 33		
21	39.23	72,87	33,64	4,28		
22	39,45	72 90	33,45	4,19		
23	39,18	72,53	33,35	4,14		
24	38,39	72,08	33 69	4 31		
25	38,56	72,01	33,45	4,19		
26	38,52	71,86	33,34	4,13		

1832	Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
	″	″	″	″		
October 27	+ 38,15	— 71.97	— 33,82	— 4.38		
28	37,98	71,83	33,85	4,39		
29	38.22	71,48	33,26	4,10		
30	38,66	72,00	33,34	4,13		
31	38.49	72,00	33,51	4,22		
Nov. 1	38.39	71,86	33,47	4,20		
2	38,25	71,14	32,89	3,91		
3	38,56	71,48	32,92	3,92		
4	38,12	71,65	33.53	4,23		
5	37.97	71,38	33.41	4,17		
6	38,32	71,48	33,16	4,04		
7	38.12	71,14	33,02	3,98	Mean of 21	
8	38,32	71,48	33,16	4,04	— 4″,13	
9	41,08	67,48	26,40	0,66	.....	Found the moveable wire loose, which appeared to arise from the gum securing it, having swelled so much from the moist state of the air as to bring it in contact with the plate securing the fixed wires; to remedy this, I removed all the wires, and filed grooves at either end to contain the varnish necessary to secure their ends.
10	41,21	67,32	26,11	0,52		
11	41,58	67,66	26,08	0,51		
12	41,04	67,56	26,52	0,72		
13	40,77	67,18	26,41	0,67		
14	41,01	67,25	26,24	0,58		
15	40.60	67,18	26,58	0,75	Mean of 8	
16	40,52	67,04	26,52	0,72	— 0″,64	
17	39,69	64,89	25,20	0,06		
18	39 52	64,78	25,26	0,10		
19	39,80	65,65	25,85	0,39		
20	40,04	65.82	25,78	0,36		
21	40.42	66,04	25,62	0,28		
22	40,04	64,96	24,92	+ 0,07		
23	40,21	64.86	24,65	+ 0,21		
24	40,04	64,78	24,74	+ 0,16		
25	39,69	64,96	25,27	— 0,10		
26	39.97	65,33	25,36	0,14		
27	39,73	65,48	25 75	0,34		
28	39,86	65,62	25,76	0,35		
29	39.73	65,47	25,74	0,34		
30	40,00	64,89	24,89	+ 0,09		
Dec. 1	39,86	64,82	24,96	+ 0,05		
2	40,53	64.75	24,22	+ 0,43		
3	40,84	65,30	24,46	+ 0,31		
4	40,49	64,96	24,47	0.30		
5	40,21	64,61	24,40	0,33		
6	40,04	64,55	24,51	0,28		
7	40,17	64,48	24,31	0,38		
8	39,73	64,04	24 31	0,38		
9	39.70	64,21	24.51	0,28		
10	39,76	64,41	24.65	0,21		
11	40,04	64,59	24,55	0,26		
12	40,31	64 61	24,30	0,38		
13	40,21	64,71	24.50	+ 0,28		
14	39,86	64,96	25,10	— 0,01		
15	38,40	63.66	25,26	— 0,09		
16	38,06	63,38	25,32	— 0,12		
17	39,49	63,87	24,38	+ 0,35		

1832		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
Dec.	18	+ 39,36	— 64,07	— 24,71	+ 0,18		
	19	39,18	63,76	24,58	+ 0,25		
	20	39,06	63,93	24,87	+ 0,10		
	21	38,84	64,21	25,37	— 0,15		
	22	38,49	63,83	25,34	0,13		
	23	38,56	63,93	25,37	0,15		
	24	38,25	63,59	25,34	0,13		
	25	38,36	63,88	25,52	0,22		
	26	38,40	63,11	24,71	+ 0,18		
	27	38,56	63,07	24,51	+ 0,28		
	28	38,33	63,93	25,60	— 0,26		
	29	38,15	64,78	26,63	0,78		
	30	38,84	64,14	25,30	0,11		
	31	39,22	64,34	25,12	0,02		
1833							
January	1	+ 38,84	— 64,61	— 25,77	0,35		
	2	38,73	64 00	25,27	0,10		
	3	38,40	63,90	25,50	0,21		
	4	38,84	63,59	24,75	+ 0,16		
	5	38,88	63,96	25,08	— 0,00	.....	Inverted the Axis several times.
	6	38,70	64,00	25.30	0,11		
	7	38,49	64,24	25,75	0,34	Mean of 53	
	8	38,56	64,18	25,62	0,27	— 0″,01	
	9	39,63	62,93	23,30	+ 0,88		
	10	40,63	62,42	21,79	+ 1,64		
	11	40,46	62,21	21,75	1,66		
	12	40,56	62,55	21,99	1,54		
	13	39,52	61,86	22,34	1,36		
	14	39,52	61.86	22,34	1,36	Mean of 6	
	15	39,86	62,38	22,52	1,27	+ 1″,47	Inverted the Axis several times.
	17	40,97	60,21	19,24	+ 2,91		
	18	42,52	61,34	18 82	3,12	.....	Inverted the Axis several times.
	19	42,62	61,01	18,39	3,34		
	20	42,45	61,59	19 14	2,96		
	21	42,27	61,89	19.62	2,72		
	22	42.62	61,17	18.55	3,26		
	23	42.85	61,41	18,56	3,25		
	24	42 34	60.86	18 52	3,27		
	25	42,07	60.62	18,55	3,26		
	26	41.58	60,21	18.63	3,22		
	27	41.76	60,17	18,41	3,33	Mean of 12	
	28	41,65	60,65	19,00	3,03	+ 3″,14	
	29	42 80	59,10	16,30	+ 4,38		
	30	44 24	58,07	13,83	5,62		
	31	44,34	58,42	14,08	5,49		
February	1	44,51	58,07	13,56	5,75		
	2	43 82	57,73	13.91	5,58		
	3	44,00	57,94	13,94	5,56		
	4	44,00	58,07	14,07	5,50		

1833	Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
	″	″	″	″		
February 5	+ 44 21	— 58,42	— 14,21	+ 5,43		
6	44,41	58,93	14,52	5,27		
7	44,03	58 63	14,60	5,23		
8	44.75	58,76	14,01	5,53		
9	44,58	58.52	13,94	5,56		
10	44,62	58,76	14 14	5,46		
11	44.48	59,45	14 97	5,05		
12	43,93	58.45	14.52	5,27		
13	44,34	58,66	14,32	5,37		
14	44,10	59,00	14,90	5,08		
15	44,34	59,34	15.00	5,03		
16	44,28	58,93	14,65	5,21		
17	44,07	59,31	15,24	4,91		
18	44,34	59,17	14,83	5,12		
19	44,28	58,59	14,31	5,38		
20	43,76	58,93	15,17	4,95		
21	44,24	59,17	14,93	5,07		
22	44,51	59,59	15.08	4,99		
23	44,75	58.90	14,15	5,46		
24	44,51	59,10	14.59	5,24		
25	45,19	59.00	13,81	5,63		
26	44,92	58 83	13,91	5,58		
27	44,75	58,66	13,91	5,58		
28	44,92	58.83	13 91	5,58		
March 1	44,51	58,59	14,08	5,49		
2	44,68	58,73	14,05	5,51		
3	44,92	58,86	13,94	5,56		
4	45,19	59,10	13,91	5,58		
5	44,89	58 59	13,70	5,68		
6	44,68	58,70	14,02	5,52		
7	45,05	58,91	13,86	5,60		
8	45,58	59,17	13,59	5,74		
9	44,03	58.59	14 56	5,25	Mean of 41	
10	44,65	58,59	13,94	5,46	+ 5″,87	
11	42,44	61,00	18,56	3,25		
12	42,30	60,97	18,67	3,20		
13	42,73	60,60	17,87	3,60		
14	42,90	60,55	17,65	3,71		
15	42.35	60,48	18,13	3,47		
16	43,03	61,04	18,01	3,53		
17	43,27	61,62	18,35	3,36		
18	42,51	60,86	18,35	3,36		
19	42 51	61,00	18,49	3,29		
20	42,48	60,48	18,00	3,53		
21	42,96	60,51	17,55	3,76		
22	43,34	60,48	17,14	3,96		
23	42,99	60,55	17,56	3,75		
24	42,44	60,14	17,70	3,68		
25	42,62	60,17	17,55	3,76		
26	42,27	60,14	17,87	3,60		
27	42,17	61,17	19,00	3,03		
28	42,30	60,83	18,53	3,27		
29	42,27	60,93	18,66	3,20		

1833		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
March	30	+ 42,30	— 61,04	— 18,74	+ 3,16		
	31	42,62	61,31	18,69	3,19		
April	1	42,48	60,69	18,21	3,43		
	2	42,58	60,83	18,25	3,41		
	3	42,51	60,83	18,32	3,37		
	4	43,06	60,86	17,80	3,63		
	5	42,79	60,83	18,04	3,51		
	6	42,83	60,93	18,10	3,48		
	7	42,83	61,14	18,31	3,38		
	8	42,27	60,90	18,63	3,22		
	9	42,44	61,04	18,60	3,23		
	10	42,37	61,14	18,77	3,15		
	11	42,96	61,38	18,42	3,32		
	12	42,58	60,83	18,25	3,41		
	13	42,30	60,62	18,32	3,37		
	14	42,34	60,83	18,49	3,29		
	15	42,62	60,69	18,07	3,50		
	16	42,37	60,97	18,60	3,23		
	17	42,34	60,90	18,56	3,25		
	18	42,41	60,58	18,17	3,45		
	19	42,41	60,61	18,20	3,43		
	20	42,55	60,48	17,93	3,57		
	21	42,55	60,31	17,76	3,65		
	22	42,72	60,83	18,11	3,48		
	23	42,30	60,86	18,56	3,25		
	24	42,41	60,86	18,45	3,31		
	25	42,58	61,11	18 53	3,27		
	26	42,21	60,93	18,72	3,17		
	27	42,72	60,90	18,18	3,44		
	28	42 55	60,79	18,24	3,41		
	29	42,48	60,83	18,35	3,36		
	30	42 48	61,14	18,66	3,20		
May	1	41,62	60,48	18,86	3,10		
	2	42,10	60,83	18,73	3,17		
	3	42,10	60,65	18,55	3,26		
	4	42,48	60,55	18,07	3,50		
	5	42.48	61,04	18,56	3,25		
	6	42,10	61.00	18,90	3,08		
	7	42,13	60,62	18,49	3,29		
	8	42,17	61,04	18,87	3,10		
	9	42,44	60,72	18,28	3,39		
	10	42,14	60 69	18,55	3,26	Mean of 62	
	11	42,14	60,83	18,69	3,19	+ 3″,38	The centre wire appears to have shifted its position no doubt from the action of the hot land wind; fearing it might have become loose I applied fresh varnish (tincture of Opium) without disturbing the Plate.
	12	40,56	63,45	22,89	1,09		
	13	40,56	63 41	22,85	1,11		
	14	39,80	63,90	24,10	0,48		
	15	39,66	63,83	24,17	0,45		
	16	39,86	64,58	24,72	0,18		
	17	39,73	64,37	24,64	0,21	Mean of 7	
	18	40,00	64,64	24,64	+ 0,21	+ 0″,53	
	19	40,49	65,58	25.09	— 0,01		
	20	39,69	65,47	25,78	0,35		

1833		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
May	21	+ 38,56	— 64,85	— 26,29	— 0,61		
	22	38,49	64,44	25,95	0,44		
	23	38,18	64,75	26,57	0,75		
	24	38,59	64,68	26,09	0,51		
	25	38,49	64,78	26,29	0,61		
	26	38,39	64,58	26,19	0,56		
	27	38,32	64,61	26,29	0,61		
	28	38,25	64,89	26,64	0,78		
	29	38,46	64,99	26,53	0,73		
	30	38,56	64,61	26,05	0,49		
	31	38,15	65,30	27,15	1,04		
June	1	38,84	64,34	25,50	0,21		
	2	38,43	64,61	26,18	0,56		
	3	38,70	64,27	25,57	0,25		
	4	38,67	64,34	25,67	0,30		
	5	38,73	64,34	25,61	0,27		
	6	38,52	64,55	26,03	0,48		
	7	38,18	64,14	25,96	0,44		
	8	38,56	64,61	26,05	0,49		
	9	38,70	63,96	25,26	0,09		
	10	38,81	64,14	25,33	0,13		
	11	38,98	64,00	25,02	+ 0,02		
	12	38,91	64,03	25,12	— 0,02		
	13	38,87	64,03	25,16	0,05		
	14	38,73	64,48	25,75	0,34		
	19	39,89	65,30	25,41	0,17		
	20	39,66	65,37	25,71	0,32		
	21		65,37				
	22	39,49	65,37	25,88	0,40		
	23	39,01	64,83	25,82	0,38		
	24	38,77					
	25	39,08	65,13	26,05	0,49		
	26	38,77	64,99	26,22	0,57		
	27	38,56	64,78	26,22	0,57		
	28	38,43	64,78	26,35	0,64		
	29	38 39					
	30	38,49					
July	1	38,59	64,51	25,92	0,42		
	2	39,09	64 41	25,32	0,12		
	3	39,21	64,10	24 89	+ 0,09		
	4	38,87	64,48	25,61	0,27		
	5	39,09	64,24	25,15	0,04		
	6	38,15	64,14	25,99	0,46		
	7	38,87	64,27	25,40	0,16		
	8	38,73	64,51	25,78	0,36		
	9	38,70	64,45	25,75	0,34		
	10	38,22	64,99	26,77	0,85		
	11	38,56	64,51	25,95	0,44		
	12	38,80	65,03	26,23	0,58		
	13	38,56	64,71	26,15	0,54		
	14	38,52	64,68	26,16	0,54		
	15	38,36	64,68	26,32	0,62		
	16	38,12	63,93	25,81	0,37		
	17	38,29	64,37	26,08	0,50		

1833		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
July	18	+ 37,91	— 64,21	— 26,30	— 0,62		
	19	38,22	64,00	25,78	0,35		
	20	38,32	64,58	26,26	0,59		
	21	38,22					
	22	38,18	64,75	26,57	0,75		
	23	38,09	64,27	26,18	0,56		
	24	38,25	64,71	26,46	0,69		
	25	38,32	64,45	26,13	0,53	Mean of 60	
	26	38,25	64,58	26,33	0,63	— 0″,44	
	27	38,15					
	28	37,98	64,68	26,70	0,81		
	29	37,98					
	30	37,67	64,58	26,91	0,92		
	31	37,40	64,55	27,15	1,04		
August	1	37,02	65,03	28,01	1,47		
	2	37,56	64,21	26,65	0,79		
	3	37,49	63,77	26,28	0,60		
	4	37,60	64,51	26,91	0,92		
	5	37,98	64,68	26,70	0,81		
	6	37,63	64,44	26,81	0,87		
	7	37,84	64,71	26,87	0,90		
	8	37,29	64,27	26,98	0,95		
	9	37,12	64,21	27,09	1,01		
	10	37,49	64,27	26,78	0,85		
	11	37,56	64,52	26,96	0,94		
	12	37,49	64,34	26,85	0,89		
	13	37,81	64,45	26,64	0,78		
	14	37,33	64,21	26,88	0,90		
	15	37,12	64,52	27,40	1,16		
	16	37,06	64,27	27,21	1,07		
	17	37,03	64,11	27,08	1,01		
	18	37,43					
	19	37,49	64,27	26,78	0,85		
	20	37,46	64,27	26,81	0,87		
	21	37,81	64,89	27,08	1,01		
	22	37,37	64,61	27,24	1,08	Mean of 25	
	23	37,12	64,61	27,49	1,21	— 0″,95	In consequence of heavy rain last night having leaked through the roof, a few drops had fallen upon the eye piece and bent one of the wires; I put in a new set.
	24	36,85	65,72	28,87	1,90		
	25	36,78	65,72	28,94	1,93		
	26	37,46	67,04	29,58	2,25		
	27	37,46	66,42	28,96	1,94		
	28	38,32	67,80	29,48	2,20		
	30	38,66	66,79	28,13	1,53		
	31	38,43	66,66	28,23	1,58		
Sept.	1	38,52	66,86	28,34	1,63		
	2	38,73	67,04	28,31	1,62	Mean of 9	
	3	38,73	.....	.....	.....	— 1″,84	
	4	38,84					
	8	39,52	65,79	26,27	0.60		
	9	39,69	66,24	26,55	0,74		
	10	39,28	66,24	26,96	0,94		

1833		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
Sept.	11	+ 39,52	— 66,69	— 27,17	— 1,05	Mean of 5	
	12	39,08	65,82	26,74	0,83	— 0″,82	
	13	37,02	67,38	30,36	2,64		
	14	36,95	67,87	30,92	2,92		
	15	36,95	67,59	30,64	2,78		
	16	37,03	67,69	30,66	2,79		
	17	37,36	67,59	30,23	2,58		
	18	36,95	67,76	30,81	2,87		
	19	36,72	67,97	31,25	3,09		
	20	37,12	68,14	31,02	2,97		
	21	37,19	67,90	30,71	2,82		
	22	36,44					
	23	36 85	68,07	31,22	3,07		
	24	36,78	68,14	31 36	3,14		
	25	36,72	68,01	31,29	3,11		
	26	36,69	68,01	31,32	3,12		
	27	37,81	68,43	30,62	2.78		
	28	38.49	68,68	30,19	2,56		
	29	38,56	69,02	30,46	2 69		
	30	38,94	67,76	28,82	1,87		
October	1	38,94	68,47	29,53	2,23		
	2	39,42	69,60	30,18	2 56	Mean of 20	
	3	38,84	68,95	30,11	2,52	— 2″,75	
	4	38,59	68,64	30,05	2,49		
	5	38,56	68,68	30.12	2,52		
	6	38,43	68,74	30,31	2,62		
	7	38 53	68,64	30,11	2,52		
	8	38,49	68,74	30,25	2,59		
	9	39,01	68,24	29,23	2,08		
	10	38,91					
	11	38,87	68,40	29,53	2,23		
	12	38,91					
	13	38,66	68.31	29,65	2,29		
	14	38,05	68,14	30,09	2,51	Mean of 10	
	15	38,32	67,97	29,65	2,29	— 2″,43	
	16	38,39	67,73	29,34	2,13		
	17	39,08	67,38	28,30	1,61		
	18	38,91	67,18	28,27	1,60		
	19	38,77					
	20	38,87					
	21	38,46	68,31	29,85	1,39		
	22	38,63	68,01	29,38	2,15		
	23	38 91	68 01	29,10	2,01		
	24	38,91	68,07	29,16	2,04		
	25	39,18	67,35	28,17	1,55		
	26	39,18	.....	.....	.....	.....	Trees obscured the South Mark.
	27	39,25					
Nov.	1	37,81	67,38	29,57	2,25		
	2	38,15					
	3	38,77	67,11	28,34	1,63		
	4	38,84					

1833		Azimuth of North mark.	Azimuth of South mark.	N. + S.	N + S + 25″,07 / 2	Mean.	Remarks.
		″	″	″	″		
Nov.	5	+ 38,77	— 67,04	— 28,27	— 1,60		
	6	39,42					
	7	39,39	67,38	27,99	1,46		
	8	38,87					
	9	38,46	67,11	28,65	1,79		
	11	37,81					
	12	36,09					
	13	36,72					
	15	35,57	64,96	29,39	2,16	.....	Inverted the Axis several times.
	16	36,09	64,68	28,59	1,76		
	17	35,84	64,71	28,87	1,90		
	18	35,30	63,96	28,66	1,79		
	19	35,30	63,90	28,60	1,76		
	20	35,20	64,27	29,07	2,00		
	21	34,71	64,00	29,29	2,11		
	22	35,06	64,27	29,21	2,07		
	23	35,27	63,27	28,00	1,47		
	24	35,23	63,59	28,36	1,64		
	25	35,23	63,24	28,01	1,47	Mean of 25	
	26	35,13	63,07	27,94	1,43	— 1″,83	
	27	35,09	62,86	27,77	1,35		
	28	34,74	62,21	27,47	1,20		
	29	34,58	62,10	27,52	1,22		
	30	34,74	62,14	27,40	1,16		
Dec.	1	34,99	62,28	27,29	1,11		
	2	34,71	62,00	27,29	1,11		
	3	34,78	62,17	27,39	1,16		
	4	34,58	61,93	27,35	1,14		
	5	34,71	62,03	27,32	1,12		
	6	34,78	62,14	27,36	1,14		
	7	35,13	62,21	27,08	1,01		
	8	35,06	62,28	27,22	1,07		
	9	34,92	62,35	27,43	1,18		
	10	34,37	61,73	27,36	1,14		
	11	34,03	61,86	27,83	1,38		
	12	34,10	61,93	27,83	1,38		
	13	34,69	62,14	27,45	1,19		
	14	34,44	61,89	27,45	1,19		
	15	34,54	62,03	27,49	1,21		
	16	34,68	62,21	27,53	1,23		
	17	35,27	62,58	27,31	1,12		
	18	34,40	61,93	27,53	1,23		
	19	34,58	62,10	27,52	1,22	Mean of 24	
	20	33,90	62,03	28,13	1,53	— 1″,21	Inverted the Axis several times.
	23	32,31					
	24	31,86	62,83	30,97	2,95	.....	Inverted the Axis several times.
	25	33,24	61,52	28,28	1,60		
	26	34,03	62,55	28,52	1,72		
	27	33,66	61,55	27,89	1,41		
	28	33,59	61,86	28,27	1,60	Mean of 7	
	29	33,59	61,86	28,27	1,60	— 1″,62	
	30	33,16	61,86	28,70	1,81		
	31	33,37	61,53	28,16	1,54		

ERROR OF AZIMUTH.

From the foregoing pages, it appears that the Angular distance between the North and South marks has varied from 26″,97, to 25″,07, in the interval between April 1831, and October 1832, it will consequently be our first step to enquire which of the Marks, or if both of them have moved? for this purpose we will now consult the observations of the Pole Star: correcting the observed transit for Error of the Clock, Error of Collimation, and the Error for Level as modified by the wear of the pivots (already explained at Pages 7 and 8); we obtain the apparent place *affected by the Azimuthal Error*; applying to this the Equations for aberration, nutation, and precession; we obtain the Mean place at the beginning of the year as *affected by the Azimuthal Error*; selecting now the consecutive observations *above* and *below* the pole, we can determine the values of a^{I} a^{II} &c. the errors in Azimuth of the center wire as follows:

1832	Observed Transit.	Error of Clock.	Correction for Level.	Correction for Collimation.	Aberration, &c.	Mean Right Ascension January 1, 1832.	Resulting values of a^{I}, a^{II}, &c.
	h. m. s.	*m. s.*	*s.*	*s.*	*s.*	*h. m. s.*	*s.*
Dec. 7	0 59 46,17	+ 0 50,04	+ 1,20	— 0,68	— 43,28	0 59 53,45 + 2,316 a^{I}	a^{I} = 4,70
7 S.P.	13 0 7,00	+ 0 52,06	— 1,40	+ 0,68	— 42,96	13 0 15,38 — 2,351 a^{I}	
8 S.P.	12 59 59,67	+ 0 56,56	— 1,50	+ 0,68	— 42,32	13 0 13,09 — 2,351 a^{II}	
9	0 59 34,17	+ 0 58,70	+ 1,74	— 0,68	— 42,00	0 59 51,93 + 2,316 a^{II}	a^{II} = 4,55
9 S.P.	12 59 52,00	+ 1 0,79	— 1,49	+ 0,68	— 41,69	13 0 13,29 — 2,351 a^{II}	
10	0 59 31,50	+ 1 2,95	+ 1,91	— 0,68	— 41,37	0 59 54,31 + 2,316 a^{III}	a^{III} = 4,08
12	0 59 18,20	+ 1 11,71	+ 1,99	— 0,68	— 40,06	0 59 51,16 + 2,316 a^{IV}	
12 S.P.	12 59 36,00	+ 1 14,27	— 1,56	+ 0,68	— 41.44	13 0 9,67 — 2,351 a^{IV}	a^{IV} = 3,97
13	0 59 12,40	+ 1 16,79	+ 2,06	— 0,68	— 39,38	0 59 51,19 + 2,316 a^{V}	
13 S.P.	12 59 30,00	+ 1 19,08	— 1,60	+ 0,68	— 39,02	13 0 9,88 — 2,351 a^{V}	a^{V} = 3,98
15	0 59 2,30	+ 1 26,47	+ 1,85	— 0,68	— 37,98	0 59 51,86 + 2,316 a^{VI}	
15 S.P.	12 59 20,67	+ 1 28,57	— 1,45	+ 0,68	— 37,63	13 0 10,84 — 2,351 a^{VI}	a^{VI} = 4,08
16	0 59 0,60	+ 1 30,67	+ 1,73	— 0,68	— 37,28	0 59 55,04 + 2,316 a^{VII}	
16 S.P.	12 59 16,30	+ 1 32,93	— 1,36	+ 0,68	— 36,93	13 0 11,62 — 2,351 a^{VII}	a^{VII} = 3,47
17	0 58 54,14	+ 1 34,59	+ 1,78	— 0,68	— 36,58	0 59 53,25 + 2,316 a^{VIII}	a^{VIII} = 3,92
18 S.P.	12 59 5,40	+ 1 42,06	— 1,45	+ 0,68	— 35,50	13 0 11,19 — 2,351 a^{IX}	
19	0 58 44,50	+ 1 44,45	+ 1,73	— 0,68	— 35,14	0 59 54,86 + 2,316 a^{IX}	a^{IX} = 3,50
20	0 58 36,00	+ 1 49,12	+ 1,89	— 0,68	— 34,42	0 59 51,91 + 2,316 a^{X}	
20 S.P.	12 58 53,00	+ 1 51,20	— 1,28	+ 0,68	— 34,06	13 0 9,54 — 2,351 a^{X}	a^{X} = 3,77
21	0 58 32,60	+ 1 53,98	+ 1,52	— 0,68	— 33,71	0 59 53,71 + 2,316 a^{XI}	a^{XI} = 3,40
23 S.P.	12 58 41,10	+ 2 5,99	— 1,40	+ 0,68	— 31,86	13 0 14,51 — 2,351 a^{XII}	
24	0 58 13,70	+ 2 8,65	+ 1,67	— 0,68	— 31,46	0 59 51,88 + 2,316 a^{XII}	a^{XII} = 4,39
24 S.P.	12 58 31,10	+ 2 10,90	— 1,36	+ 0,68	— 31,11	13 0 10,21 — 2,351 a^{XIII}	
25	0 58 11,10	+ 2 13,55	+ 1,65	— 0,68	— 30,71	0 59 54,91 + 2,316 a^{XIII}	a^{XIII} = 3,28
26	0 58 7,00	+ 2 18,08	+ 1,59	— 0,68	— 29,19	0 59 56,03 + 2,316 a^{XIV}	
26 S.P.	12 58 21,30	+ 2 20,19	— 1,30	+ 0,68	— 20,60	13 0 11,27 — 2,351 a^{XIV}	a^{XIV} = 3,28

1833	Observed Transit.	Error of Clock.	Correction for Level.	Correction for Collimation.	Aberration, &c.	Mean Right Ascension January 1, 1832.	Resulting values of a^{I}, a^{II}, &c.
	h. m. s.	*m. s.*	*s.*	*s.*	*s.*	*h. m. s.*	*s.*
Jan. 2 S.P.	12 57 45,00	+ 2 50,39	— 1,66	+ 1,23	— 24,12	13 0 10,84 — 2,351 a^{xv}	a^{xv} = 3,84
3	0 57 24,00	+ 2 52,56	+ 2,12	— 1,23	— 23,72	0 59 53,73 + 2,316 a^{xv}	
3 S.P.	12 57 42,00	+ 2 54,22	— 1,67	+ 1,23	— 23,32	13 0 12,46 — 2,351 a^{xv}	
4	0 57 17,80	+ 2 55,92	+ 2,14	— 1,23	— 22,92	0 59 51,71 + 2,316 a^{xvi}	a^{xvi} = 4,36
4 S.P.	12 57 37,00	+ 2 57,57	— 1,69	+ 1,23	— 22,52	13 0 11,59 — 2,351 a^{xvi}	
5	0 57 12,40	+ 2 59,23	+ 1,98	— 1,23	— 22,12	0 59 52,26 + 2,316 a^{xvii}	a^{xvii} = 3,84
5 S.P.	12 57 30,00	+ 3 0 76	— 1,55	+ 1,23	— 21,73	13 0 8,71 — 2,351 a^{xvii}	
6	0 57 11,30	+ 3 2,28	+ 1,83	— 1,23	— 21,33	0 59 52,85 + 2,316 a^{xviii}	a^{xviii} = 3,96
6 S.P.	12 57 31,00	+ 3 4,02	— 1,37	+ 1,23	— 20,93	13 0 13,95 — 2,351 a^{xviii}	
7	0 57 7,00	+ 3 5,76	+ 1,66	— 1,23	— 20,53	0 59 52,66 + 2,316 a^{xix}	a^{xix} = 4,56
8	0 57 4.30	+ 3 9.37	+ 1,67	— 1,23	— 19,74	0 59 54,37 + 2 316 a^{xix}	
8 S.P.	12 57 19,10	+ 3 11,11	— 1,31	+ 1,23	— 19,35	13 0 10,78 — 2,351 a^{xx}	a^{xx} = 3,51
10	0 56 46,20	+ 3 17,11	+ 1,92	+ 2,88	— 18,16	0 59 49 95 + 2 316 a^{xxi}	a^{xxi} = 5,02
10 S.P.	12 57 16,60	+ 3 18 87	— 1,45	— 2,88	— 17,77	13 0 13,37 — 2,351 a^{xxi}	
11	0 56 43,70	+ 3 20,64	+ 2,04	+ 2,88	— 17,37	0 59 51,89 + 2,316 a^{xxii}	a^{xxii} = 4,61
11 S.P.	12 57 12,50	+ 3 22.27	— 1,55	— 2,88	— 16,97	13 0 13,37 — 2 351 a^{xxii}	
14 S.P.	12 56 56,40	+ 3 30,85	— 1,17	— 2 88	— 14,58	13 0 8,62 — 2,351 a^{xxiii}	
15	1 0 32,60	— 0 28,88	+ 2,44	+ 2,88	— 14,18	0 59 54,86 + 2,316 a^{xxiii}	a^{xxiii} = 3,44
15 S.P.	13 1 4,90	— 0 28,98	— 1,96	— 6,90	— 13,79	13 0 13,27 — 2,351 a^{xxiii}	
16	1 0 33,00	— 0 29.35	+ 3,44	+ 6,90	— 13,40	1 0 0 59 + 2,316 a^{xxiv}	a^{xxiv} = 2,11
16 S.P.	13 0 59,50	— 0 29,24	— 2,75	— 6,90	— 13.00	13 0 7,61 — 2,351 a^{xxiv}	
17	1 0 24,60	— 0 30,01	+ 4,42	+ 6,90	— 12,61	0 59 53,30 + 2,316 a^{xxv}	a^{xxv} = 3,40
17 S.P	13 1 3,80	— 0 30,38	— 3,54	— 6.90	— 12,21	13 0 10,77 — 2,351 a^{xxv}	

If we now correct the *observed* Azimuth of the North and South Marks for the Error of Collimation, with the assistance of the above values of a we can determine their *true* Azimuth from the meridian; thus:

1832	Azimuth of the centre wire from Meridian.	Azimuth from centre wire of North mark.	Azimuth from centre wire of South mark.	Azimuth from the Meridian of North mark.	Azimuth from the Meridian of South mark.	Remarks.
	s.	*s.*	*s.*	*s.*	*s*	
December 7	a^{I} = N. 4,70 E.	N. 39,79 W.	S. 64,86 E.	N. 35,09 E.	S. 60,16 E.	
9	a^{II} = — 4,55 ..	.. 39 42 ..	.. 64,49 ..	.. 35,37 ..	. 60,44 ..	
10	a^{III} = — 4,08 ..	.. 39,55 ..	.. 64,62 ..	.. 35,47 ..	.. 60,54 ..	
12	a^{IV} = — 3,97 ..	.. 39,93 ..	.. 65,00 ..	.. 35.96 ..	.. 61,03 ..	
13	a^{V} = — 3,98 ..	.. 39,93 ..	.. 65 00 ..	.. 35,95 ..	.. 61,02 ..	
15	a^{VI} = — 4.08 ..	.. 38,50 ..	. 63,57 ..	.. 34,42 ..	.. 59,49 ..	
16	a^{VII} = — 3,47 ..	.. 38,18 ..	.. 63,25 ..	.. 34 71 ..	.. 59,78 ..	
17	a^{VIII} = — 3,92 ..	.. 39,15 ..	.. 64,22 ..	.. 35,23 ..	.. 60 30 ..	
19	a^{IX} = — 3.50 ..	.. 38,94 ..	.. 64,01 ..	.. 35,44 ..	.. 60,51 ..	
20	a^{X} = — 3,77 ..	.. 38,96 ..	.. 64,03 ..	.. 35,09 ..	.. 60,16 ..	
21	a^{XI} = — 3.40 ..	.. 38,99 ..	.. 64 06 ..	.. 35,59 ..	.. 60.66 ..	
24	a^{XII} = — 4,39 ..	.. 38,38 ..	.. 63 45 ..	.. 33,99 ..	.. 59,06 ..	
25	a^{XIII} = — 3,28 ..	.. 38,58 ..	.. 63,65 ..	.. 35,30 ..	.. 60,37 ..	
26	a^{XIV} = — 3,28 ..	.. 38,22 ..	.. 63,29 ..	.. 34,94 ..	.. 60,01 ..	
1833						
January 3	a^{XV} = — 3,84 ..	.. 38,61 ..	.. 63,68 ..	.. 34,77 ..	.. 59,84 ..	
4	a^{XVI} = — 4,36 ..	.. 38,68 ..	.. 63,75 ..	.. 34,32 ..	.. 59,39 ..	

1833		Azimuth of the centre wire from Meridian.	Azimuth from centre wire of		Azimuth from the Meridian of		Remarks.
			North mark.	South mark.	North mark.	South mark.	
		s.	*s.*	*s.*	*s.*	*s.*	
Jannary	5	a^{xvii} = N. 3,84 E.	N. 38,88 W.	S. 63.96 E.	N. 35,04 E.	S. 60,12 E.	
	6	a^{xviii} = — 3,96 ..	.. 38,81 ..	.. 63,88 ..	.. 34,85 ..	.. 59,92 ..	
	7	a^{xix} = — 4,56 ..	.. 38,83 ..	.. 63,90 ..	.. 34,27 ..	.. 59,34 .	
	8	a^{xx} = — 3,51 ..	.. 38,85 ..	.. 63,92 ..	.. 35,34 ..	.. 60,41 ..	
	10	a^{xxi} = — 5,02 ..	.. 39,00 ..	.. 64,07 ..	.. 33,98 ..	.. 59,05 ..	
	11	a^{xxii} = — 4,61 ..	.. 38,80 ..	.. 63,87 ..	.. 34,19 ..	.. 59 26 ..	
	15	a^{xxiii} = — 3,44 ..	.. 38,59 ..	.. 63,66 ..	.. 35,15 ..	.. 60,22 ..	
	16	a^{xxiv} = — 2,11 ..	.. 38,59 ..	.. 63,66 ..	.. 36,48 ..	.. 41,55 ..	
	17	a^{xxv} = — 3,40 ..	.. 38,06 ..	.. 63,13 ..	.. 34,66 ..	.. 59,73 ..	

Taking the mean of 25 we have 35″,02 and 60″,09 for the true Azimuths. If N and S represent the *observed* Azimuth of the Centre wire from the North and South Marks and, C the Error of Collimation.

The Azimuth of the Centre wire from the Meridian = $35'',02 \pm C - N.$

——— ——— ——— ——— ——— = $60'',09 \mp C - S.$

Taking half the sum..... = $\frac{95'',11 - N - S.}{2}$

Similarly we have for the Year 1833.

1833		Observed Transit.	Error of Clock.	Correction for		Aberration, &c.	Mean Right Ascension, Jan. 1, 1832.		Resulting values of a^1, a^2, &c.
				Level.	Collimation.				
		h. m. s.	*m. s.*	*s.*	*s.*	*s.*	*h. m. s.*		*s.*
Nov.	19	1 1 27,75	— 0 29,87	+ 3,89	— 5,13	— 46,03	0 59 54,83	+ a^1	
	19 S.P.	13 1 35,75	— 0 28,76	— 3,05	+ 5,13	— 45,79	13 0 7,50	— a^1	a^1 = 2,63
	20	1 1 25,70	— 0 27,78	+ 3 85	— 5,13	— 45,55	0 59 55,31	+ a^1	
	20 S.P.	13 1 36,43	— 0 27,06	— 3,01	+ 5,13	— 45,31	13 0 10,40	— a^2	a^2 = 3,19
	23	1 1 17,25	— 0 23,03	+ 3,85	— 5,13	— 44,11	0 59 53,05	+ a^3	
	23 S.P.	13 1 30,14	— 0 22,32	— 3,02	+ 5,13	— 43,86	13 0 10,29	— a^3	a^3 = 3,64
Dec.	5	1 0 56,80	— 0 7,70	+ 4,63	— 3,63	— 37,47	0 59 56,85	+ a^4	
	5 S.P.	13 1 10,90	— 0 7,64	— 3,70	+ 3,63	— 37,17	13 0 10,24	— a^4	a^4 = 2,63
	6	1 0 57,25	— 0 6,88	+ 4,59	— 3,63	— 36,85	0 59 58,70	+ a^4	
	6 S.P.	13 1 5,27	— 0 6,74	— 3,62	+ 3,63	— 36,54	13 0 6,22	— a^5	a^5 = 1,77
	7	1 0 54,00	— 0 6,06	+ 4,58	— 3,63	— 36,21	0 59 56,90	+ a^5	
	8	1 0 54,25	— 0 5,76	+ 4,18	— 3,63	— 35,58	0 59 57,68	+ a^6	
	8 S.P.	13 1 4,50	— 0 4,94	— 3,30	+ 3,63	— 35,27	13 0 8,84	— a^6	a^6 = 2,19
	9	1 0 54,50	— 0 4,68	+ 3,86	— 3,63	— 34,95	0 59 59,32	+ a^6	
	9 S.P.	13 1 2,64	— 0 4,23	— 3,05	+ 3,63	— 34,64	13 0 8,57	— a^7	a^7 = 2,02
	10	1 0 51,75	— 0 3,60	+ 4,34	— 3,63	— 34,31	0 59 58,77	+ a^7	
	10 S.P.	13 0 59,17	— 0 3,09	— 3,45	+ 3,63	— 33,97	13 0 6,51	— a^8	a^8 = 1,76
	11	1 0 50,25	— 0 2,48	+ 4,87	— 3,63	— 33,64	0 59 59,59	+ a^8	
	11 S.P.	13 0 59,57	— 0 2,16	— 3 82	+ 3,63	— 33,30	13 0 8,14	— a^9	a^9 = 1,78
	12	1 0 51,00	— 0 1,60	+ 4,71	— 3,63	— 32,97	1 0 1,73	+ a^9	
	12 S.P.	13 0 56,50	— 0 1,03	— 3.69	+ 3,63	— 32,63	13 0 7,00	— a^{10}	a^{10} = 1,11
	18	1 0 29,50	+ 0 10,04	+ 4,63	— 3,63	— 28,76	0 59 56,00	+ a^{11}	
	18 S.P.	13 0 38,00	+ 0 11,06	— 3,63	+ 3,63	— 28,43	13 0 4,85	— a^{11}	a^{11} = 1,50
	19	1 0 29,62	+ 0 12,70	+ 4,60	— 3,63	— 28,04	0 59 59,47	+ a^{11}	

1833	Observed Transit.	Error of Clock.	Correction for Level.	Correction for Collimation.	Aberration, &c.	Mean Right Ascension, Jan. 1, 1832.	Resulting values of a^1, a^2, &c.
	h. m. s.	*m. s.*	*s.*	*s.*	*s.*	*h. m. s.*	*s.*
Dec. 24 S.P.	13 0 18,00	+ 0 26,41	— 4,35	+ 7,43	— 24,00	13 0 7,71 — a^{12}	a^{12} = 1,32
25	1 0 11,00	+ 0 27,77	+ 6,70	— 4,62	— 23,62	1 0 1,45 + a^{12}	
25 S.P.	13 0 17,80	+ 0 28,77	— 5,27	+ 4,62	— 23,24	13 0 6,90 — a^{13}	a^{13} = 1,55
26	1 0 3,25	+ 0 30,28	+ 6,41	— 4,62	— 22,85	0 59 57,69 + a^{13}	
26 S.P.	13 0 16.00	+ 0 31,25	— 5,08	+ 4,62	— 22,49	13 0 8,52 — a^{14}	a^{14} = 2,07
27	1 0 3,89	+ 0 32,24	+ 6,11	— 4,62	— 22,09	0 59 59,75 + a^{14}	
27 S.P.	13 0 12,00	+ 0 32,91	— 4,84	+ 4,62	— 21,70	13 0 7,21 — a^{15}	a^{15} = 1,58
28 S.P.	13 0 7,50	+ 0 35,15	— 4,74	+ 4,62	— 20,92	13 0 5,83 — a^{16}	a^{16} = 1,68
29	0 59 56,37	+ 0 36,66	+ 5,81	— 4,62	— 20,52	0 59 57,92 + a^{16}	
30	0 59 57,12	+ 0 38,30	+ 5,67	— 4,62	— 19,74	1 0 0,95 + a^{17}	
30 S.P.	12 59 59,93	+ 0 39,65	— 4,49	+ 4,62	— 19,35	13 0 4,58 — a^{17}	a^{17} = 0,82
31	0 59 53,00	+ 0 41,22	+ 5,52	— 4,62	— 18,95	1 0 0,39 + a^{17}	

Comparing these values of a, a^1, &c. as before, with the Azimuthal readings corrected for Error of Collimation, we obtain as follows:

1833	Azimuth of the centre wire from Meridian.	Azimuth from centre wire of North mark.	Azimuth from centre wire of South mark.	Azimuth from the Meridian of North mark.	Azimuth from the Meridian of South mark.	Remarks.
	s.	*s.*	*s.*	*s.*	*s.*	
November 19	a^1 = N. 2,63 E.	N. 37,06 W.	S. 62,13 E.	N. 34,43 W.	S. 59,50 E.	
20	a^2 = — 3,19 ..	.. 37,20 ..	.. 62,07 ..	.. 34,01 ..	.. 59,08 ..	
23	a^3 = — 3,64 ..	.. 36,73 ..	.. 61,80 ..	.. 33,09 ..	.. 58,16 ..	
December 5	a^4 = — 2,63 ..	.. 35,82 ..	.. 60,89 ..	.. 33,19 ..	.. 58,26 ..	
6	a^5 = — 1,77 ..	.. 35,92 ..	.. 60,99 ..	.. 34,15 ..	.. 59,22 ..	
8	a^6 = — 2,19 ..	.. 36,13 ..	.. 61,20 ..	.. 33,94 ..	.. 59,01 ..	
9	a^7 = — 2,02 ..	.. 36,10 ..	.. 61,17 ..	.. 34,08 ..	.. 59,15 ..	
10	a^8 = — 1,76 ..	.. 35,52 ..	.. 60,59 ..	.. 33,76 ..	.. 58,83 ..	
11	a^9 = — 1,78 ..	.. 35,41 ..	.. 60,48 ..	.. 33,63 ..	.. 58,70 ..	
12	a^{10} = — 1,11 ..	.. 35,41 ..	.. 60,48 ..	.. 34,30 ..	.. 59,37 ..	
18	a^{11} = — 1,50 ..	.. 35,63 ..	.. 60,70 ..	.. 34,13 ..	.. 59,20 ..	
24	a^{12} = — 1,32 ..	. 34,81 ..	.. 59,88 ..	.. 33,49 ..	.. 58,56 ..	
25	a^{13} = — 1,55 ..	.. 34,84 ..	.. 59,91 ..	.. 33,29 ..	.. 58,36 ..	
26	a^{14} = — 2,07 ..	.. 35,75 ..	.. 60,82 ..	.. 33,68 ..	.. 58,75 ..	
27	a^{15} = — 1,58 ..	.. 35,07 ..	.. 60,14 ..	.. 33,49 ..	.. 58,56 ..	
28	a^{16} = — 1,68 ..	.. 35,19 ..	.. 60,26 ..	.. 33,51 ..	.. 58,58 ..	
30	a^{17} = — 0,82 ..	.. 35,19 ..	.. 60,26 ..	.. 34,37 ..	.. 59,44 ..	
	Mean of 17 = N. 33″,79 W.		S. 58″,86 E.			

Whence it appears that the North and South Marks have each deviated 1″23, following the same direction in which they had first moved; for the observations of 1832, we have already found (Page 30.)

The Error in Azimuth..... $= \frac{95'',11 - N - S.}{2}$

Whereas for the observations towards the end of 1833, we now find it..... $= \frac{92'',65 - N - S.}{2}$

As no circumstances offer to shew, if the present alteration took place gradually, or on a sudden; we will for the present suppose the latter number to take effect from the first of July 1833; and for the previous 6 months, employ the mean of the determinations for 1832 and 1833 or $\frac{93'',87 - N - S}{2}$

with these we will now compute the observations of the Pole Star, δ Ursæ Minoris, and 76 Draconis, which have been observed both above and below the Pole in 1832 and 1833.

POLARIS AT SUPERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.	Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.
		1h. m. s.	s.	s.	s.	s.	1h. m. s.
October	19	0 53,17	+ 1,38	+ 18,91	— 10,76	— 61,71	0 0,99
	21	0 54,20	+ 1,22	.....	.....	— 61,48	0 2,09
	22	0 55,00	+ 1,16	.....	.....	— 61,36	0 2,95
	23	0 53,56	+ 1,06	.....	.....	— 61,24	0 1,53
	24	0 53,74	+ 1,08	.....	.....	— 61,08	0 1.89
	25	0 54,49	+ 1,10	.....	.....	— 60,92	0 2,82
	26	0 55,57	+ 1,12	.....	.....	— 60,76	0 4,08
	27	0 55,17	+ 1,15	.....	.....	— 60.61	0 3,86
	28	0 55,81	+ 1,16	+ 17,22	.....	— 60,40	0 3,03
	29	0 54,76	+ 0,61	.....	.....	— 60 19	0 1,64
	30	0 56,73	+ 0,00	.....	.....	— 59,98	0 4,21
	31	0 55,31	+ 1,46	.....	.....	— 59,77	0 3,46
November	1	0 55,15	+ 1,75	.....	.....	— 59,51	0 3,85
	2	0 53,47	+ 1,57	.....	.....	— 59,24	0 2,26
	3	0 53,43	+ 1,41	.....	.....	— 58,98	0 3,32
	4	0 51,32	+ 1.49	.....	.....	— 58,71	0 1,56
	5	0 53,04	+ 1,59	.....	.....	— 58,34	0 2,75
	12	0 45,42	+ 1,62	+ 15,34	— 2,21	— 56,06	0 4 20
	13	0 44,80	+ 1,56	.....	.....	— 55.66	0 3,83
	15	0 45,71	+ 1,48	.....	.....	— 54,86	0 5,46
	16	0 44,76	+ 1,46	.....	.....	— 54,46	0 4,89
	17	0 42,52	+ 1,43	+ 11,48	— 0,68	— 54,01	0 0,74
	18	0 42,99	+ 1,34	.....	.....	— 53.56	0 1,57
	19	0 41,42	+ 1.26	.....	.....	— 53,11	0 0.37
	21	0 42 96	+ 1,08	.....	.....	— 52,16	0 2,68
	22	0 41,97	+ 1,21	.....	.....	— 51,69	0 2,29
	23	0 42,49	+ 1,41	.....	.....	— 51,19	0 3,51
	25	0 41,51	+ 1,41	.....	.....	— 50,14	0 3.58
	29	0 38,84	+ 1.43	.....	.....	— 48,01	0 3,06
	30	0 38,50	+ 1,46	.....	.....	— 47,44	0 3,32
December	3	0 36,88	+ 1,57	.....	.....	— 45,64	0 3,61
	4	0 35,79	+ 1,45	.....	.....	— 45,07	0 2,97
	6	0 35,91	+ 1,33	.....	.....	— 43,92	0 4,12
	7	0 36,21	+ 1,20	.....	.....	— 43,28	0 4,93
	9	0 32,87	+ 1,74	.....	.....	— 42,00	0 3.41
	10	0 34,45	+ 1,91	.....	.....	— 41,37	0 5.79
	11	0 32,15	+ 1.84	.....	.....	— 40,72	0 4,07
	12	0 29,91	+ 1,99	.....	.....	— 40 06	0 2,64
	13	0 29,19	+ 2,06	.....	.....	— 39.38	0 2 67
	15	0 28,77	+ 1,85	+ 8,67	.....	— 37,98	0 0.63
	16	0 31,27	+ 1,73	.....	.....	— 37,28	0 3,71

POLARIS AT SUPERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.	Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.
		1h. m. s.	s.	s.	s.	s.	1h. m. s.
December	17	0 28,73	+ 1,78	+ 8,67	— 0,68	— 36,58	0 1,92
	19	0 28,95	+ 1,73	.....	.....	— 35,14	0 3,53
	20	0 25,12	+ 1,89	.....	.....	— 34.42	0 0,58
	21	0 26,58	+ 1,52	.....	.....	— 33,71	0 2,38
	22	0 24,66	+ 1,58	.....	.....	— 32,96	0 1,27
	24	0 22,35	+ 1,67	.....	.....	— 31,46	0 0,55
	25	0 24,45	+ 1,65	.....	.....	— 30,71	0 3,38
	26	0 25,08	+ 1,59	.....	.....	— 29,96	0 4,70
	27	0 24,97	+ 1,52	.....	.....	— 29,19	0 5,29
1833.							
January	2	0 17,00	+ 2,11	+ 10,28	— 1,23	— 8,74	0 19,42
	3	0 16,56	+ 2,12	.....	.....	— 7,94	0 19.79
	4	0 13,72	+ 2,14	.....	.....	— 7,14	0 17,67
	5	0 11,63	+ 1,98	.....	.....	— 6,34	0 16.32
	6	0 13.58	+ 1,83	.....	.....	— 5,55	0 18,91
	7	0 12,76	+ 1,66	.....	.....	— 4,75	0 18.72
	8	0 13,67	+ 1,67	.....	.....	— 3,96	0 20,43
	10	0 3,31	+ 1,92	.....	+ 2,38	— 2,38	0 16,01
	11	0 4,34	+ 2,04	.....	.....	— 1,59	0 17,95
	15	0 3,72	+ 2,44	.....	.....	+ 1,60	0 20,92
	16	0 3,65	+ 3,44	.....	.....	+ 2,38	0 22,63
	17	59 54.59	+ 4,42	.....	+ 6,90	+ 3,17	0 19,36
June	27	0 10,11	+ 5,55	+ 11,19	— 1,76	— 1,20	0 23,89
	28	0 8,16	+ 5,48	.....	.....	— 1,97	0 21,10
July	7	0 19,17	+ 4,86	+ 12,07	.....	— 8,90	0 25,44
	12	0 17,92	+ 4,77	.....	.....	— 12,73	0 20,27
	14	0 19,37	+ 4,73	.....	.....	— 14,23	0 20,18
November	19	0 57,88	+ 3,89	+ 7,32	— 5,13	— 46,03	0 17,93
	20	0 57,92	+ 3,85	.....	.....	— 45,55	0 18,41
	23	0 54,22	+ 3,85	.....	.....	— 44,01	0 16,25
	27	0 54,33	+ 4,34	+ 4,86	— 3,68	— 42,35	0 17,55
December	2	0 50,50	+ 4,64	.....	.....	— 39,28	0 17,09
	3	0 50,84	+ 4,63	.....	.....	— 38,68	0 18,02
	4	0 51,06	+ 4,66	.....	.....	— 38,08	0 18,87
	5	0 49,10	+ 4,63	.....	.....	— 37,47	0 17,49
	6	0 50,37	+ 4,59	.....	.....	— 36,85	0 19,34
	7	0 47,94	+ 4,58	.....	.....	— 36,21	0 17,54
	8	0 48,49	+ 4,18	.....	.....	— 35,58	0 18,32
	9	0 49,82	+ 3,86	.....	.....	— 34,95	0 19,96
	10	0 48,15	+ 4,34	.....	.....	— 34,31	0 19 41
	11	0 47,77	+ 4,87	.....	.....	— 33,64	0 20,23
	12	0 49,40	+ 4,71	.....	.....	— 32,97	0 22,37
	14	0 44,95	+ 4,79	.....	.....	— 31,63	0 19.35
	18	0 39,54	+ 4,63	.....	.....	— 28,76	0 16,64
	19	0 42,32	+ 4,60	.....	.....	— 28,04	0 20,11
	22	0 37,87	+ 4,25	.....	.....	— 25,86	0 17,49
	23	0 38,94	+ 4,34	.....	.....	— 25,13	0 19,38
	24	0 47,22	+ 5,52	+ 2,38	— 7,99	— 24,38	0 22,75
	25	0 38,77	+ 6,70	+ 3,32	— 4,62	— 23,62	0 20,55
	26	0 34,53	+ 6,41	.....	.....	— 22,85	0 16.79
	27	0 36,13	+ 6,11	.....	.....	— 22,19	0 18,75
	29	0 33,03	+ 5,81	.....	.....	— 20.52	0 17,02
	30	0 35,42	+ 5,67	.....	.....	— 19,74	0 20,05
	31	0 34,22	+ 5,52	.....	.....	— 18,95	0 19,49

POLARIS AT INFERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.		Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.	
		12h.						12h.	
		m.	s.	s.	s.	s.	s.	m.	s.
February	13	59	31,02	+ 1,75	+ 51,62	— 41,30	+ 15,74	59	58,83
	22	59	31,04	+ 1,33	.....	.....	+ 21,20	0	3.89
March	11	59	21,78	+ 0,86	+ 48,95	.....	+ 29,30	59	59,09
	14	59	20,84	+ 1,04	.....	.....	+ 30,24	59	59,77
	20	59	21,17	+ 1,30	.....	.....	+ 31,74	0	1,86
	28	59	18,08	+ 0,86	.....	— 38,50	+ 32,90	0	2.29
	29	59	17,85	+ 0,90	.....	.....	+ 32,96	0	2,16
	30	59	17 36	+ 0,94	.....	.....	+ 33,03	0	1,78
	31	59	16 49	+ 1,03	.....	.....	+ 33,09	0	1,06
April	1	59	11,55	+ 1,12	.....	— 34,30	+ 33,14	0	0,46
	2	59	6,99	+ 1,08	.....	— 31,06	+ 33,13	59	59,09
	4	59	5,76	+ 1,05	.....	— 30,33	+ 33,12	59	58,55
	5	59	7,39	+ 1,05	.....	— 32.90	+ 33,11	59	57,60
	6	59	9,38	+ 1,15	.....	— 35,51	+ 33,08	59	57,05
	7	59	10,72	+ 1,25	.....	.....	+ 33,04	59	58,45
	10	59	18,07	+ 0,99	.....	— 36,72	+ 32,89	0	4,18
	11	59	18,05	+ 1,03	.....	— 36 87	+ 32,76	0	3,92
	12	59	17,22	+ 1,16	.....	— 36,21	+ 32,62	0	3 74
	13	59	18,96	+ 1,29	.....	— 35,51	+ 32,46	0	6,15
	14	59	15,01	+ 1,31	.....	.....	+ 32,27	0	2.03
	15	59	15,86	+ 1,33	.....	.....	+ 32,07	0	2,70
	17	59	17,84	+ 1,02	+ 46,73	.....	+ 31,69	0	1.77
	18	59	17 70	+ 1,03	.....	.....	+ 31,49	0	1,44
	19	59	17,14	+ 1,05	.....	.....	+ 31,27	0	0,68
	21	59	16,50	+ 0,91	.....	.....	+ 30,80	59	59,43
	26	59	21,02	+ 0,73	.....	.....	+ 29,35	0	2,32
	27	59	21,51	+ 0,90	.....	.....	+ 29,00	0	2,63
	30	59	19 99	+ 0,80	.....	.....	+ 27,93	59	59,92
May	1	59	20,99	+ 1,08	.....	.....	+ 27,58	0	0,87
	3	59	22,75	+ 1,25	.....	.....	+ 26 68	0	1,90
	11	59	25,42	+ 0,68	.....	.....	+ 23 08	0	0,40
	12	59	26,02	+ 0,90	.....	.....	+ 22,57	0	0,71
	14	59	35,08	+ 1,04	+ 47,82	— 41,16	+ 22,06	0	4 84
	15	59	33 48	+ 0,90	.....	.....	+ 21 03	0	2,07
	16	59	36,85	+ 0,79	.....	.....	+ 20,48	0	4,78
	17	59	34 60	+ 0,68	.....	.....	+ 19,92	0	1,86
	18	59	33,13	+ 0 76	.....	.....	+ 19 35	59	59 90
	19	59	38 13	+ 0,84	.....	— 42,76	+ 18,78	0	2,81
	20	59	38 66	+ 0,92	.....	— 42 85	+ 18,19	0	2,74
	22	59	33,58	+ 0,71	.....	— 41,16	+ 16,68	59	57,93
	24	59	34,28	+ 0,78	.....	.....	+ 15 76	59	57,48
	26	59	33 35	+ 1,12	.....	— 39,75	+ 14,49	59	57.03
	27	59	37,69	+ 1,02	.....	— 41,16	+ 13 85	59	59,22
	28	59	36,21	+ 0.88	.....	.....	+ 13,21	59	56,96
	29	59	37,45	+ 0,76	.....	.....	+ 12,57	59	57,44
	30	59	36 50	+ 0,76	.....	.....	+ 11,92	59	55,84
	31	59	37,60	+ 0,76	.....	.....	+ 11,27	59	56 29
June	5	59	48.05	— 0,02	.....	.....	+ 7,63	0	0,19
	9	59	49,27	— 0,14	.....	.....	+ 4 80	59	58,33
	10	59	52,53	— 0,14	.....	— 43,41	+ 4,07	0	0,87
	11	59	57,32	— 0,26	.....	.....	+ 3,34	0	4,81
	15	59	59,68	— 0,01	+ 48,85	.....	+ 0 40	0	5 51
December	7	0	59 06	— 1,40	— 11,46	+ 0,68	— 42,96	0	4,92
	8	0	56,23	— 1,50	.....	.....	— 42,32	0	1 63
	9	0	52,79	— 1,49	.....	.....	— 41,69	59	59 93

POLARIS AT INFERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.	Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.
		13h. m. s.	s.	s.	s.	s.	12h. m. s.
December	12	0 50,27	— 1,56	— 11,46	+ 0,68	— 39,72	59 58,21
	13	0 49,08	— 1,60	.....	.....	— 39,02	59 57,68
	14	0 51,80	— 1,53	.....	.....	— 38,33	0 1,46
	15	0 49,24	— 1,45	— 8,64	.....	— 37,63	0 2,20
	16	0 49,23	— 1,36	.....	.....	— 36,93	0 2,92
	18	0 47,46	— 1,45	.....	.....	— 35,50	0 2,55
	20	0 44,20	— 1,28	.....	.....	— 34,06	0 0,90
	23	0 47,09	— 1,40	.....	.....	— 31,86	0 5,87
	24	0 42,00	— 1,36	.....	.....	— 31,11	0 1,57
	26	0 41,49	— 1,30	.....	.....	— 29,60	0 2,63
1833							
January	2	0 35,39	— 1,66	— 10,22	+ 1,23	— 8,34	0 12,94
	3	0 36,22	— 1,67	.....	.....	— 7,54	0 14,55
	4	0 34,57	— 1,69	.....	.....	— 6,74	0 17,15
	5	0 30,76	— 1,55	.....	.....	— 5 95	0 14,26
	6	0 35,02	— 1,37	.....	.....	— 5,15	0 19,51
	8	0 30,21	— 1,31	.....	.....	— 3,57	0 16,34
	10	0 35,47	— 1,45	.....	— 2,88	— 1,99	0 18,93
	11	0 34,77	— 1,55	.....	.....	— 1,19	0 18,93
	13	0 26,66	— 1,35	.....	.....	+ 0,40	0 12 61
	14	0 27,25	— 1,17	.....	.....	+ 1,20	0 14,18
	15	0 35,22	— 1,96	.....	— 6,90	+ 1,99	0 18.83
	16	0 30,26	— 2,75	.....	.....	+ 2.78	0 13,17
	17	0 33,42	— 3,54	.....	.....	+ 3,57	0 16 33
November	19	1 6,99	— 3,05	— 7,24	+ 5,13	— 45,79	0 16,04
	20	1 9,37	— 3,01	.....	.....	— 45,31	0 18,94
	21	1 7,54	— 2 92	.....	.....	— 44,83	0 17,68
	22	1 6,66	— 2,81	.....	.....	— 44,35	0 17, 9
	23	1 7,81	— 3.02	.....	.....	— 43,86	0 18 82
	28	1 7.25	— 3,49	— 4,81	+ 3,63	— 41,78	0 20,80
December	1	1 3,92	— 3,60	.....	.....	— 39,58	0 19,56
	5	1 3,26	— 3,70	.....	.....	— 37,17	0 21,21
	6	0 58,53	— 3,62	.....	.....	— 36,54	0 17,19
	8	0 59,56	— 3,30	.....	.....	— 35,27	0 19,81
	9	0 58,41	— 3,05	.....	.....	— 34,64	0 19,44
	10	0 56,08	— 3,45	.....	.....	— 33,79	0 17,48
	11	0 57,41	— 3,82	.....	.....	— 33,30	0 19,11
	12	0 55,47	— 3,69	.....	.....	— 32,63	0 17,97
	13	0 53,10	— 3,57	.....	.....	— 31,96	0 16.39
	18	0 49,06	— 3,63	.....	.....	— 28,43	0 15.82
	24	0 44 01	— 4,35	— 2,60	+ 7,43	— 24 00	0 20 89
	25	0 46.57	— 5,27	— 3,29	+ 4,62	— 23,24	0 19,39
	26	0 47,25	— 5,08	.....	.....	— 22,49	0 21,01
	27	0 44,91	— 4,84	.....	.....	— 21,70	0 19,70
	28	0 42.65	— 4,74	.....	.....	— 20,92	0 18,32
	30	0 39,58	— 4,49	.....	.....	— 19,35	0 17,07

δ URSÆ MINORIS AT SUPERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.	Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.
		18h. m. s.	s.	s.	s.	s.	18h. m. s.
March	29	26 37,13	— 0,59	— 22,42	+ 17,88	— 2,50	26 29.50
	31	26 40,17	— 0,68	.....	.....	— 3,21	26 31,74
April	9	26 42,11	— 0,72	.....	.....	— 6,37	26 30,48
August	27	26 34,63	— 2,73	+ 7,09	— 2,49	— 5,37	26 31,13
	31	26 32,15	— 2,47	.....	.....	— 3,89	26 30,39
September	4	26 29,16	— 2,30	+ 7,98	.....	— 2,31	26 30,04
	5	26 30,16	— 2,56	.....	.....	— 1,91	26 31,18
	9	26 29,77	— 2,60	.....	— 4,38	— 0,33	26 30,44
	10	26 28,75	— 2,64	.....	— 3,52	+ 0,07	26 30,64
	11	26 28,73	— 2,63	.....	.....	+ 0,46	26 31,03
	22	26 25,27	— 2,76	.....	.....	+ 4,98	26 31,95
	23	26 24,35	— 2,68	.....	.....	+ 5,40	26 31,53
	26	26 21,89	— 2,64	.....	.....	+ 6,66	26 30,36
	27	26 21,32	— 2,68	.....	.....	+ 7,08	26 30,18

δ URSÆ MINORIS AT INFERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.	Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.
		6h. m. s.	s.	s.	s.	s.	6h. m. s.
January	4	25 55,71	+ 0,65	+ 23,86	— 6,99	+ 17,23	26 30,46
	12	25 55,52	+ 0,60	.....	— 8,90	+ 17,19	26 28,27
	14	25 54.80	+ 0,62	.....	.....	+ 17,03	26 27,41
	15	25 55,16	+ 0,63	.....	.....	+ 16.94	26 27,69
	24	26 7,00	+ 0,70	+ 24,38	— 19,10	+ 16,01	26 28.99
	29	26 7,70	+ 0,80	.....	.....	+ 15,29	26 29,07
February	11	26 9.69	+ 0,67	.....	.....	+ 12 65	26 29,31
	13	26 10,60	+ 0,67	.....	.....	+ 12,15	26 28,70
	14	26 7,88	+ 0,69	.....	.....	+ 11,90	26 25,75
	15	26 10,61	+ 0,70	.....	.....	+ 11,64	26 28,23
	18	26 14,48	+ 0,46	.....	.....	+ 10,83	26 30,59
	19	26 11,37	+ 0,49	.....	.....	+ 10.55	26 27,69
	20	26 10.24	+ 0,52	.....	.....	+ 10,27	26 26,31
	22	26 12,53	+ 0,51	.....	.....	+ 9,71	26 28,03
	24	26 10,54	+ 0,45	.....	.....	+ 9,13	26 26,40
	25	26 11,84	+ 0,48	.....	.....	+ 8,82	26 26,42
	26	26 14,11	+ 0.53	.....	.....	+ 8,51	26 28,97
	28	26 17,79	+ 0,56	+ 23,10	— 19,88	+ 7,88	26 29,45
March	1	26 17,54	+ 0.61	.....	.....	+ 7,24	26 28,61
	2	26 17,20	+ 0,65	.....	.....	+ 6,91	26 27,98
	3	26 19,84	+ 0,59	.....	.....	+ 6,58	26 30,23
	4	26 18,03	+ 0,54	.....	.....	+ 6,24	26 28 03
	5	26 18,11	+ 0,56	.....	.....	+ 5,90	26 27,78
	13	26 21,96	+ 0,51	.....	.....	+ 3,19	26 28,88
	14	26 22,45	+ 0,45	.....	.....	+ 2,87	26 28,99
	15	26 22,26	+ 0,49	.....	.....	+ 2,55	26 28,52
	17	26 22,38	+ 0,51	.....	.....	+ 1,89	26 28,00
	19	26 23,94	+ 0,48	.....	.....	+ 1,11	26 28,75
	20	26 22,93	+ 0,51	.....	.....	+ 0,73	26 27,39
	21	26 24,47	+ 0,51	.....	.....	+ 0,34	26 28,54

δ URSÆ MINORIS AT INFERIOR CULMINATION.

1833		Observed A.R. corrected for Error of Clock.		Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1833.	
		6h.						6h.	
		m.	s.	s.	s.	s.	s.	m.	s.
January	12	26	1,87	— 0,55	— 4,84	— 1,33	+ 16,17	26	11,32
	15	26	0,76	— 0,76	.....	— 1,33	+ 15,97	26	9,80
	16	26	1,42	— 1,06	.....	— 3,18	+ 15,90	26	8,24
	29	26	9,32	— 1,60	.....	— 6,68	+ 14,30	26	10,75
	31	26	8,32	— 1,73	.....	.....	+ 13,94	26	9,01
February	1	26	9,68	— 1,67	.....	.....	+ 13,76	26	10,25
	3	26	8,26	— 1,64	.....	.....	+ 13,39	26	8,49
	9	26	9 24	— 1,78	.....	.....	+ 12,11	26	8,05
	11	26	9,86	— 1,80	.....	.....	+ 11,63	26	8,17
	13	26	12,27	— 1,82	— 5,22	.....	+ 11,14	26	9,69
	28	26	16,47	— 1,55	.....	.....	+ 6,80	26	9,52
March	3	26	16,16	— 1,94	.....	.....	+ 5,81	26	8,13
	6	26	20,43	— 1,94	.....	.....	+ 4,81	26	11,40
	7	26	18,01	— 2,20	.....	.....	+ 4,48	26	8,39
	8	26	16 66	— 1,67	.....	.....	+ 4,15	26	8,24
	9	26	16,25	— 1,79	.....	.....	+ 3,82	26	6,37
	10	26	18,45	— 1,75	.....	.....	+ 3,48	26	8,28
	11	26	19,44	— 1,71	.....	— 4,72	+ 3,14	26	10,93
	13	26	17,52	— 1,70	.....	.....	+ 2,45	26	8,33
	14	26	17,54	— 1,75	.....	.....	+ 2,11	26	7,96
	15	26	17,64	— 1,78	.....	.....	+ 1,76	26	7,68
	16	26	18,89	— 1,80	.....	.....	+ 1,41	26	8,56
	17	26	18,00	— 1,82	.....	.....	+ 1,06	26	7,30
	18	26	18,97	— 1,84	.....	.....	+ 0,71	26	7,90
	19	26	18,87	— 1,80	.....	.....	+ 0,36	26	7,49
	21	26	18,64	— 1,83	.....	.....	— 0,35	26	6.52
	22	26	20,81	— 1,90	.....	.....	— 0,71	26	8,26
	23	26	20,24	— 2,00	.....	.....	— 1,06	26	7,14
	25	26	22,17	— 2,02	.....	.....	— 1,78	26	8,43

76 DRACONIS AT SUPERIOR CULMINATION.

1832		Observed A.R. corrected for Error of Clock.		Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1832.	
		20h.						20h.	
		m.	s.	s.	s.	s.	s.	m.	s.
September	19	54	22,03	— 1,43	+ 3,28	— 1,30	— 6,20	54	16,38
	20	54	21,21	— 1,43	.....	— 1,23	— 6,08	54	15,75
	22	54	20,98	— 1,49	.....	.....	— 5,82	54	15,72
	24	54	20,32	— 1,40	.....	.....	— 5,56	54	15,41
	25	54	19,95	— 1,43	.....	.....	— 5,44	54	15,13
1833								1833	
October	21	54	9,80	+ 1,27	+ 2,99	— 0,86	— 0,76	54	12,44
	22	54	9,99	+ 1,28	.....	.....	— 0,60	54	12,80
	23	54	9,60	+ 1,19	.....	.....	— 0,44	54	12,48
	25	54	8,92	+ 1,18	.....	.....	— 0,11	54	12,12
	30	54	9,47	+ 1,09	.....	.....	+ 0,72	54	13,41
November	6	54	6,87	+ 0,57	.....	.....	+ 1,90	54	11,47

1833		Observed A.R. corrected for Error of Clock.		Correction for Level.	Correction for Azimuth.	Correction for Collimation.	Aberration, &c.	Mean A.R. 1833.	
		8h. m.	s.	s.	s.	s.	s.	6h. m.	s.
February	23	54	8,60	— 0,31	— 2,22	— 0,51	+ 6,88	54	12,44
March	11	54	10,73	— 0,31	.....	— 1,45	+ 5,72	54	12,47
	12	54	8,49	— 0,28	.....	+ 0,27	+ 5,63	54	11,89
	17	54	8,29	— 0,31	.....	.....	+ 5,12	54	11,15
	18	54	8,76	— 0,32	.....	.....	+ 5,00	54	11,49
	19	54	9,27	— 0,31	.....	.....	+ 4,89	54	12,90
	25	54	11,53	— 0,36	.....	— 1,45	+ 4,22	54	11,72
April	21	54	15,55	— 0,43	.....	.....	+ 0,48	54	11,93

76 DRACONIS AT INFERIOR CULMINATION.

Taking the means, and applying to the observations of 1833, the Annual variations to reduce them to the beginning of 1832, we have:

		Mean A.R. Jan. 1, 1832. h.	m.	s.
I	POLARIS.....S.P. 52 Observations in the first six months of 1832....	13	0	0,86
II	——— ——— Ann. Var. 17″,86 — 26 Observations towards the end of 1832, and in January 1833.	13	0	0,87
III	——— ——— — 22 Observations in the months of November and December 1833.	13	0	2,85
IV	POLARIS..... — 62 Observations in November and December 1832, and in January 1833.	1	0	2,93
V	——— 5 Observations in June and July 1833.....	1	0	6,39
VI	——— — 27 Observations in the months of November and December 1833.	1	0	3,00
VII	δ URSÆ MIN. S.P. 30 Observations in the three first months of 1832...	6	26	28,35
VIII	——— ——— Ann. Var. 19″,19 — 29 Observations in the three first months of 1833.	6	26	27,83
IX	δ URSÆ MIN.... 14 Observations towards the middle of 1832.....	18	26	30,75
X	76 DRACONIS S.P. Ann. Var. 3″,72 — 8 Observations in March 1833.....	8	54	15,72
XI	76 DRACONIS.... 5 Observations in September 1832.....	20	54	15,68
XII	——— 6 Observations in October and November 1833...	20	54	16,17

Examining these results attentively; we notice, from the near agreement of No. I with No. II and of No. VII with No. VIII, that any error of Azimuth affecting the observations at the beginning of 1832, affect equally those towards the end of that year and for the three first months of 1833: let this error be represented by a. No. V shews us that some larger error which we will call a^1 exists in the months of June and July 1833. To No. XII, or the observations for October and the early part of November 1833, we will assign an error a^2. Finally, comparing No. III with No. VI we find that an

error of Azimuth of no consequence is attached to the observations between the 19th November and the end of the year 1833.

Taking the mean of I and II and of VII and VIII we obtain the following Equations.

$$\begin{aligned}
&s. && s.\\
&0{,}86 + 2{,}35\ a \pm \frac{e}{\sqrt{n}} = 2{,}93 - 2{,}32\ a \pm \frac{e}{\sqrt{n^{\mathrm{I}}}}\\
&28{,}09 + 1{,}10\ a \pm \frac{e^{\mathrm{I}}}{\sqrt{n^{\mathrm{II}}}} = 30{,}75 - 1{,}07\ a \pm \frac{e^{\mathrm{I}}}{\sqrt{n^{\mathrm{III}}}}\\
&15{,}72 + 0{,}47\ a \pm \frac{e^{\mathrm{II}}}{\sqrt{n^{\mathrm{IV}}}} = 15{,}68 - 0{,}44\ a \pm \frac{e^{\mathrm{II}}}{\sqrt{n^{\mathrm{V}}}}
\end{aligned}$$

where e, e^{I}, &c. represent the probable errors of a single observation and n, n^{I}, &c. the number of observation constituting each result. Considering the low altitude at which Stars below the pole are seen in this latitude, it must be expected that the unsteadiness consequent thereto will give rise to large errors of observation; in the case of the Pole Star, I propose to assume the mean error of a single observation to be two seconds; for δ Ursæ Minoris, one second; and for 76 Draconis seven tenth of a second—substituting these values, we determine:

	s.		s.
$4{,}67\ a =$	$2{,}07 \pm ,32$	or $a =$	$0{,}44 \pm ,07$
$2{,}17\ a =$	$2{,}66 \pm ,28$	$- a =$	$1{,}22 \pm ,13$
$0{,}91\ a =$	$0{,}04 \pm ,40$	$- a =$	$- 0{,}05 \pm ,44$

giving to each of these results a weight in the inverse ratio of the probable error, we find $a = 0'',63$; hence the Azimuth of the North and South Marks for the year 1832, and for the first 3 months of 1833; (instead of the results found at Page 30) will be N. 35″,51 W. and S. 60″,69 E. Computing now the observations of the Pole Star with these newly found errors of Azimuth and taking the mean we find:

	Mean Right Ascension reduced to January 1, 1832.					
	h.	*m.*	*s.*	*h.*	*m.*	*s.*
78 Observations *below* the Pole in 1832 and in January 1833.....	13	0	2,34	13	0	2,45
22 Observations *below* the Pole towards the end of 1833.....			2,85			
62 Observations *above* the Pole in 1832 and in January 1833.....	1	0	1,47	1	0	1,93
27 Observations *above* the Pole towards the end of 1833.....			3,00			

With the mean of these 1*h*. 0*m*. 2,19*s*. We will now proceed to compute a^{I} or, since there are only five observations, it will perhaps be better to compute from these the Azimuth of the North and South Marks as follows:

1833	Observed A.R. corrected for Clock Error.	Correction for Level.	Correction for Collimation.	Correction for Aberration, &c.	Mean A.R. January 1, 1832.
	h. *m.* *s.*	*s.*	*s.*	*s.*	*h.* *m.* *s.*
June 27	1 0 10,11	+ 5,55	— 1,76	— 1,20	0 59 56,92 + 2,32 a^{I}
28	1 0 8,16	+ 5,48	.....	— 1,97	0 59 54,13 + 2,32 a^{II}
July 7	1 0 19,17	+ 4,86	.....	— 8,90	0 59 57,79 + 2,32 a^{III}
12	1 0 17,92	+ 4,77	.....	— 12,73	0 59 52,42 + 2,32 a^{IV}
14	1 0 19,37	+ 4,73	.....	— 14,23	0 59 52,33 + 2,32 a^{V}

	s.					*s.*
Hence	5,27	=	2,32	a^{I}	or a^{I}	= 2,27
——	8,06	=	2,32	a^{II}	— a^{II}	= 3,47
——	4,40	=	2,32	a^{III}	— a^{III}	= 1,90
——	9,77	=	2,32	a^{IV}	— a^{IV}	= 4,21
——	9,86	=	2,32	a^{V}	— a^{V}	= 4,29

employing these in conjunction with the registered variation of the centre wire from the North and South Marks at Page 24, when corrected for Collimation, we obtain the

AZIMUTH OF THE

North Mark.			South Mark.	
s.			*s.*	
N. 36,86	W.	....	S. 61,93	E.
— 35,60	—	....	— 60,67	—
— 37,13	—	....	— 62,29	—
— 35,17	—	....	— 60,24	—
— 34,77	—	....	— 59,84	—
		....		
Mean N. 35,91	W.	....	S. 60,98	E.

To compute a^{II} we must now with the value found above for a correct the place of 76 Draconis given at Pages 37 and 38, we have from

	Mean A.R. 1832. *h.* *m.* *s.*
5 Observations in September 1832 *above* the Pole.....	20 54 15,40
8 Observations in March 1833 *below* the Pole.....	8 54 16,02

Taking the mean of these and putting it equal to No. XII, we have

h.		*h.*	*m.*	*s.*		*h.*	*m.*	*s.*			
12	+	8	54	15,71	=	20	54	16,17	—	0,44	a^{II}

or a^{II} = 0″,98

applying this to the numbers found at Page 32, which it will be recollected

have been employed from the 1st of July 1833; we obtain the Azimuths of the North and South Marks for the month of October, and for the early part of November 1833; and recapitulating, we have found altogether as follows.

	AZIMUTH OF THE MARK to the North.		to the South.
	s.		s.
Observations of 1831.....	N. 35,34 W.	....	S. 62,31 E.
1832, and January February, and March of 1833....	— 35,51 —	....	— 60,69 —
June and July 1833.....	— 35,91 —	....	— 60,98 —
October and the early part of November 1833.....	— 34,77 —	....	— 59,84 —
November and December 1833.....	— 33,79 —	....	— 58,86 —

The results of 1832 from the number of observations employed are probably very near the truth; comparing them with those of 1831 it appears probable that the North Mark has remained firm, and that an alteration has taken place in the position of the South Mark to the amount of 1″,6. The results for the months of June and July 1833, being determined from five observations of the Pole Star only, cannot be supposed very accurate; their tendency is however to support the values found for 1832. The results of October and the early part of November 1833, determined from five observations of 76 Draconis, possess still less claims to accuracy, their tendency is however rather to support the results of 1832 than those of November and December 1833, these last from the number of observations employed we may presume to be a good determination; from these considerations we are led to conclude, that the position of the North Mark has remained unchanged from the time of the erection of the Transit Instrument (January 1831) up to the early part of November 1833 when it moved 1″,4 towards the East = 0″,64 Inches; that the South Mark shifted to the Westward towards the end of 1831 or the beginning of 1832 to the amount 1″,61, and that a further alteration in the same direction took place to the amount 2″,42 towards the beginning of November 1833: to determine the precise date of the former alteration we unfortunately have not a sufficient number of observations, but the uncertainty thereby introduced into one or two months observations (from an error of eight tenths of a second of space) will on inspecting the table shewing the correction for 1″ error of Azimuth be found not to exceed 0″,14 of time. For the more accurate determination of the date of the latter alteration, we will now examine the daily observations of the Azimuth of the centre wire from the North and South Marks for 1833: to get rid of the error of Collimation with which each of these is affected, we will examine the sum, or N + S; here we find the utmost regularity to exist up to the 26th of September when

an alteration to the amount of two seconds occurs, but in a direction contrary to the alteration for which we desire to account; we must consequently attribute it to some alteration of the Instrument itself: from this time up to the end of the year, one alteration only occurs deserving of notice; it is on the 11th of November, being in amount such as very nearly agrees with the alteration which we found above to have taken place towards the early part of November; I should hesitate to assume this day as the date of the alteration on these grounds were it not that another circumstance (the fall of four or five Inches of rain) which took place at this time, seems to render it probable that the foundation of the buildings forming the North and South Marks may have given way; to satisfy myself on this head, on a late occasion I paid a visit to the South Mark, which is the end of a very substantially built brick dwelling House, situated at about one and a half miles distant from the Observatory; here I found a crack in the wall about 2 Inches wide, which is just sufficient to account for the alterations above found; the North Mark is a square, (brick and chunam) pyramid, of weather beaten and rough exterior, thereby offering no means of detecting a small alteration of the foundation, but from the nature of the soil (a bed of loose sand) it is easy to believe that a considerable fall of rain might have produced the alteration in question; consequently, in computing the corrections for Azimuth for 1832 and for 1833 up to the 12th of November, we must employ the number

$$\frac{96'',20 - N - S}{2}$$

and from the 12th November 1833, to the end of the year

$$\frac{92'',65 - N - S}{2}$$

employing these with the observed Azimuth of the North and South Marks from the centre wire we obtain as follows:

1832	N. — S.	$\frac{96'',20 - N - S}{2}$	Remarks.	1832	N. — S.	$\frac{96'',20 - N - S}{2}$	Remarks.
	s.	s.			s.	s.	
Jan. 1	+ 48,14	+ 24,03		Jan. 7	+ 54,80	+ 20,70	
2	51,69	22,25		8	51,35	22 42	
3	51,97	22,11		9	51,94	22,13	
5	52,41	21,89		10	54 40	20,90	
6	51,83	22,18		11	52,48	21,86	

1832		N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
		s.	s.	
Jan.	12	+ 52,55	+ 21,82	
	13	52 48	21,86	
	14	51,12	22,54	
	15	50,84	22 68	
	16	51,70	22,25	
	17	50,89	22,65	Mean of 18
	18	52,31	21,94	= + 22″,16
	19	50,86	22,67	New wires.
Feb.	3	53,20	21,50	New wires.
	4	48,82	23,69	
	5	50,86	22,67	
	6	50,47	22,86	
	7	48,57	23,81	
	8	49,95	23,12	
	9	49,91	23,14	
	10	48,86	23,67	
	11	49,28	23,46	
	12	51.30	22,45	
	13	50,88	22,66	
	14	50,82	22,69	
	15	51,37	22 41	
	16	51,26	22.47	
	17	51,33	22,43	
	18	52,29	21,95	
	19	50,39	22,90	
	20	51,13	22.53	
	21	51,65	22,27	
	22	51.41	22,39	
	23	51,57	22.31	
	24	51,57	22,31	
	25	51,69	22,25	
	26	52,17	22,01	Mean of 24
	27	52,14	22,03	= + 22″,69
	28	53,68	21,26	
	29	53,44	21,38	
March	1	53.23	21,48	
	2	52,96	21,62	
	3	53,20	21,50	
	4	52,48	21,86	
	5	52,75	21.72	
	6	52,50	21,85	
	7	52,34	21,93	
	8	52,20	22,00	
	9	52,86	21,67	
	10	54.64	20,78	
	11	54,31	20,94	
	12	53,23	21,48	
	13	53,16	21,52	
	14	52,85	21,67	

1832		N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
		s.	s.	
March	15	+ 52,48	+ 21 86	
	16	51,73	22,23	
	17	52,27	21,96	
	18	52.62	21,79	
	19	52,79	21,70	
	20	52 48	21,86	
	21	52,21	21,99	
	22	53 69	21,26	
	23	53,77	21,21	
	24	54,08	21,06	
	25	53,97	21 11	
	26	52,87	21,67	
	27	54,34	20,93	
	28	53 03	21,58	
	29	52,80	21,70	
	30	53,96	21,12	
	31	52 19	22 00	
April	1	52,76	21,72	
	2	52,86	21,67	
	3	53.58	21,31	
	4	53.82	21,19	
	5	53,17	21,51	
	6	53,48	21,36	
	7	53,75	21,22	
	8	53,54	21,33	
	9	53.52	21,34	
	10	55,30	20,45	
	11	54,41	20,89	
	12	53,54	21,33	
	13	53,91	21,14	
	14	53,43	21,38	
	15	53,37	21,41	Mean of 49
	16	53,77	21,21	= + 21″,46
	18	55,34	20,43	
	19	55,59	20,30	
	20	55,19	20.50	
	21	55,17	20,51	
	22	55 08	20.56	
	23	55,05	20.57	
	24	54,98	20 61	
	25	54,96	20,62	
	26	55,10	20.55	
	27	55,34	20,43	
	28	55,31	20 44	
	29	55,65	20 27	
	30	55,25	20.47	
May	1	55,54	20,33	
	2	55,69	20 26	
	3	55.44	20,38	
	4	55,44	20,38	
	5	55,68	20,26	

1832	N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
	s.	s.	
May 6	+ 55,79	+ 20,20	
7	55,24	20,48	
8	55,52	20,34	
9	55,09	20,56	
10	55,57	20,31	
11	55,73	20,23	
12	54,75	20,72	
13	53,92	21,14	
14	54,06	21,07	
15	54,30	20,95	
16	53,88	21,16	
17	54,22	20,99	
18	55,89	20,16	
19	55,15	20,52	
20	55,12	20,54	
21	55,16	20,52	
22	54,82	20,69	
23	54,65	20 77	
24	54 37	20,91	
25	54 29	20,95	
26	54,47	20,86	Mean of 40
27	54,20	21,00	= + 20″,58
28	54,61	20,79	
29	54,45	20,87	
30	54,38	20,91	
31	54.15	21,02	
June 1	54,24	20,98	
2	54,11	21,04	
3	54,07	21,06	
4	54,03	21,08	
5	54 17	21.01	
6	54,58	20,81	
7	54,16	21,02	
9	54,33	20,93	
10	54,54	20,83	
11	54.51	20,84	
12	54 26	20,97	
13	53,71	21,24	
14	53,44	21,38	
15	53,92	21,14	
16	54,29	20,95	
17	54,26	20,97	
18	53 48	21,36	Mean of 22
19	54,20	21,00	= + 21″,04
20	53,10	21,55	
21	53,95	21,12	
22	54.17	21,01	
24	53,71	21,24	
25	53,24	21,48	
27	53,68	21,26	

1832	N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
	s.	s.	
June 28	+ 53,31	+ 21,44	
29	53,31	21.44	
30	53,21	21,49	
July 1	53,44	21,38	
2	53,31	21,44	
3	53,06	21,57	
4	53,55	21,32	
5	53,62	21,29	
6	53,37	21,41	
7	52,55	21,82	Mean of 17
8	53,19	21,50	= + 21″,40
16	100,26	— 2,03	Adjusted the In-
17	100,40	2,10	strument.
24	100,26	2,03	
25	100,57	2,16	
27	100,57	2,18	
29	100,16	1,98	
30	100,57	2,18	
31	101,40	2,60	Mean of 10
Aug. 1	100,39	2,09	= — 2″,08
7	98,98	1,39	
13	103,82	3,81	A new set of
14	102,26	3,03	lines.
15	102,96	3,38	
17	102,16	2,98	
18	102,54	3,17	
19	101,71	2,75	
20	102,26	3,03	
21	101,80	2,80	
22	101,68	2,74	
23	101,24	2,52	Mean of 11
24	101,02	2,41	= — 2″,97
25	107,89	5,84	
26	108,81	6.30	
27	109,37	6,58	
28	109,00	6,40	
29	108,60	6,20	
30	108,73	6,26	
31	107,79	5,79	
Sept. 1	107,71	5.75	Mean of 9
2	107,22	5,51	= — 6″,07
3	110,43	7,11	
4	109,88	6,84	
5	109.16	6 48	
6	109,46	6,63	
7	109,57	6,68	
8	109,92	6 86	
9	110,05	6,92	

1832		N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
		s.	s.	
Sept.	13	+109,68	— 6,74	
	20	110,19	6,99	
	21	110,22	7,01	
	22	110,50	7,15	
	23	109,95	6,87	
	24	109,44	6,62	
	25	109,44	6,62	
	26	109,88	6,84	
	27	110,29	7,04	
	28	110,50	7,15	
	29	110,44	7,12	
	30	109,64	6,72	
Oct.	1	110,22	7,01	
	3	110,76	7,28	
	6	109,70	6,75	
	7	110,42	7,11	
	8	110,25	7,02	
	9	110,39	7,09	
	10	110,30	7,05	
	11	109,83	6,81	
	12	110,08	6,94	
	13	109,94	6,87	
	14	110,04	6,92	Mean of 31
	17	109,88	6,84	= — 6″,90
			7,87	Inverted the axis
	19	111,95		several times.
	20	112,15	7,97	
	21	112,10	7,95	
	22	112,35	8,07	Mean of 5
	23	111,71	7,75	= — 7,″92
	24	110,47	7,13	
	25	110,57	7,18	
	26	110,38	7,09	
	27	110,12	6,96	
	28	109,81	6,80	
	29	109,70	6,75	
	30	110,66	7,23	
	31	110,49	7,14	
Nov.	1	110,25	7,02	
	2	109,39	6,59	
	3	110,04	6,92	
	4	109,77	6,78	
	5	109,35	6,58	
	6	109,80	6,80	
	7	109,26	6,53	Mean of 16
	8	109,80	6,80	= — 6″,89
	9	108,56	6,18	A new set of lines
	10	108,53	6,16	put in.
	11	108,24	6,02	
	12	108,60	6,20	

1832		N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
		s.	s.	
Nov.	13	+107,95	— 5,87	
	14	108,26	6,03	
	15	107,78	5,79	Mean of 8
	16	107,56	5,68	= — 5″,99
	17	104,58	4,19	
	18	104,30	4,05	
	19	105,45	4,62	
	20	105,86	4,83	
	21	106,46	5,13	
	22	105,00	4,40	
	23	105,07	4,43	
	24	104,82	4,31	
	25	104,65	4,22	
	26	105,30	4,55	
	27	105,21	4,50	
	28	105,48	4,64	
	29	105,20	4,50	
	30	104,89	4,34	
Dec.	1	104,68	4,24	
	2	105,28	4,54	
	3	106,14	4,97	
	4	105,45	4,62	
	5	104,82	4,31	
	6	104,59	4,19	
	7	104,65	4,22	
	8	103,77	3,78	
	9	103,91	3,85	
	10	104,17	3,98	
	11	104,63	4,21	
	12	104,92	4,36	
	13	104,92	4,36	Mean of 28
	14	104,82	4,31	= — 4″,38
	15	102,06	2,93	
	16	101,44	2,62	
	17	103,36	3,58	
	18	103,43	3,61	
	19	102,94	3,37	
	20	102,99	3,39	
	21	103,05	3,42	
	22	102,32	3,06	
	23	102,49	3,14	
	24	101,84	2,82	
	25	102,24	3,02	
	26	101,51	2,66	
	27	101,63	2,71	
	28	102,26	3,03	
	29	102,93	3,36	
	30	102,98	3,39	Mean of 17
	31	103,56	3,68	= — 3″,16

1833		N. — S.	96″,20 — N — S. / 2	Remarks.
		s.	s.	
Jan.	1	+103,45	— 3,62	
	2	102,73	3,26	
	3	102,30	3,05	
	4	102,43	3,11	
	5	102,84	3,32	Inverted the axis.
	6	102,70	3,25	
	7	102,73	3,26	
	8	102,74	3,27	
	9	102,56	3,18	
	10	103,05	3,42	
	11	102,67	3,23	
	12	103,11	3,45	Mean of 14
	13	101,38	2,59	= — 3″,18
	14	101,28	2,54	Inverted the axis.
	15	102,24	3,02	
	17	101,18	2,49	
	18	103,86	3,83	Inverted the axis.
	19	103,63	3,71	
	20	104,04	3,92	
	21	104,16	3,98	
	22	103,79	3,79	
	23	104,26	4,03	Mean of 7
	24	103,20	3,50	= — 3″,82
	25	102,69	3,24	
	26	101,79	2,79	
	27	101,93	2,86	
	28	102,30	3,05	
	29	101,90	2,85	
	30	102,31	3,05	
	31	102,76	3,28	
Feb.	1	102,58	3,19	
	2	101,55	2,67	
	3	101,94	2,87	
	4	102,07	2,93	Mean of 12
	5	102,63	3,21	= — 3″,00
	6	103,34	3,57	
	7	102,66	3,23	
	8	103,51	3,65	
	9	103,10	3,45	
	10	103,38	3,59	
	11	103,93	3,86	
	12	102,38	3,09	
	13	103,00	3,40	
	14	103,10	3,45	
	15	103,68	3,74	
	16	103,21	3,50	
	17	103,38	3,59	
	18	103,51	3,65	

1833		N. — S.	96″,20 — N — S. / 2	Remarks.
		s.	s.	
Feb.	19	+102,87	— 3,34	
	20	102,69	3,24	
	21	103,41	3,60	
	22	104,10	3,95	
	23	103,65	3,73	
	24	103,61	3,70	
	25	104,19	3,99	
	26	103,75	3,77	
	27	103,41	3,60	
	28	103,75	3,77	
March	1	103,10	3,45	
	2	103,41	3,60	
	3	103,78	3,79	
	4	104,29	4,04	
	5	103,48	3,64	
	6	103,38	3,59	
	7	103,96	3,88	
	8	104,75	4,28	
	9	102,62	3,21	
	10	103,24	3,52	
	11	103,44	3,62	
	12	103,27	3,53	
	13	103,33	3,56	
	14	103,45	3,62	
	15	102,83	3,31	
	16	104,07	3,93	
	17	104,89	4,34	
	18	103,37	3,58	
	19	103,51	3,65	
	20	102,96	3,38	
	21	103,47	3,63	
	22	103,82	3,81	
	23	103,54	3,67	
	24	102,58	3,19	
	25	102,79	3,29	
	26	102,41	3,10	
	27	103,34	3,57	
	28	103,13	3,46	
	29	103,20	3,50	
	30	103,34	3,57	
	31	103,93	3,86	
April	1	103,17	3,48	
	2	103,41	3 60	
	3	103,34	3,57	
	4	103,92	3,86	
	5	103,62	3,71	
	6	103 76	3,78	
	7	103,97	3,88	
	8	103,17	3,48	
	9	103,48	3,64	
	10	103,51	3,65	
	11	104,34	4,07	

1833		N. — S.	96″,20 — N — S.	Remarks.
		s.	s.	
April	12	+103,41	— 3,60	
	13	102,92	3,36	
	14	103,17	3,48	
	15	103,31	3,55	
	16	103,34	3,57	
	17	103,24	3,52	
	18	102,99	3,39	
	19	103,02	3,41	
	20	103,03	3,41	
	21	102,86	3,33	
	22	103,55	3,67	
	23	103,16	3,48	
	24	103,27	3,53	
	25	103,69	3,74	
	26	103,14	3,47	
	27	103,62	3,71	
	28	103,34	3,57	
	29	103,31	3,55	
	30	103,62	3,71	
May	1	102,10	2,95	
	2	102,93	3,36	
	3	102,75	3,28	
	4	103,03	3,41	
	5	103,52	3,66	
	6	103,10	3,45	
	7	102,75	3,27	
	8	103,21	3,50	Mean of 94
	9	103,16	3,48	= — 3″,56
	10	102,83	3,31	I applied fresh varnish to the wires.
	11	103,55	3,67	
	12	104,01	3,90	
	13	103,97	3,88	
	14	103,70	3,75	
	15	103,49	3,64	
	16	104,44	4,12	
	17	104,10	3,95	
	18	104,64	4,22	
	19	106,07	4,93	Mean of 10
	20	105,16	4,48	= — 4″,05
	21	103,41	3,60	
	22	102,93	3,36	
	23	102,93	3,36	
	24	103,27	3,53	
	25	103,27	3,53	
	26	102,97	3,38	
	27	102,93	3,36	
	28	103,14	3,47	
	29	103,45	3,62	
	30	103,17	3,48	
	31	103,45	3,62	

1833		N. — S.	96″,20 — N — S.	Remarks.
		s.	s.	
June	1	+103,18	— 3,49	
	2	103,04	3,42	
	3	102,97	3,38	
	4	103,01	3,40	
	5	103,07	3,43	
	6	103,07	3,43	
	7	102,32	3,06	
	8	103,17	3,48	
	9	102,66	3,23	
	10	102,95	3,37	
	11	102,98	3,39	
	12	102,94	3,37	
	13	102,90	3,35	Mean of 25
	14	103,21	3,50	= — 3″,42
	19	105,19	4,49	
	20	105,03	4,41	
	22	104,86	4,33	
	23	104,86	4,33	Mean of 5
	25	104,21	4,00	= — 4″,31
	26	103,76	3,78	
	27	103,34	3,57	
	28	103,21	3,50	
July	1	103,10	3,45	
	2	103,50	3,65	
	3	103,31	3,55	
	4	103,35	3,57	
	5	103,33	3,56	
	6	103,29	3,54	
	7	103,14	3,47	
	8	103,24	3,52	
	9	103,15	3,47	
	10	103,21	3,50	
	11	103,07	3,43	
	12	103,83	3,81	
	13	103,27	3,53	
	14	103,20	3,50	
	15	103,04	3,42	
	16	102,05	2,92	
	17	102,66	3,23	
	18	102,12	2,96	
	19	102,22	3,01	
	20	102,90	3,35	
	22	102,93	3,37	
	23	103,36	3,58	
	24	102,96	3,38	
	25	102,77	3,29	
	26	102,83	3,31	
	28	102,66	3,23	
	30	102,25	3,02	
	31	101,95	2,87	

1833	N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
	s.	*s.*	
Aug. 1	+ 102,05	— 2,92	
2	101,77	2,78	
3	101,26	2,53	
4	102,11	2,95	
5	102,66	3,23	
6	102,07	2,93	
7	102,55	3,17	
8	101,56	2,68	
9	101,33	2,57	
10	101,76	2,78	
11	102,08	2,94	
12	101,83	2,81	
13	102,26	3,03	
14	101,54	2,67	
15	101,64	2,72	
16	101,33	2,57	
17	101,14	2,47	
19	101,76	2,78	
20	101,73	2,77	
21	102,70	3,25	
22	101,98	2,89	
23	101,73	2,77	
24	102,57	3,18	Mean of 55
25	102,50	3,15	= — 3″,18
26	104,50	4,15	
27	103,88	3,84	
28	106,12	4,96	
30	105,45	4,62	
31	105,09	4,44	
Sept. 1	105,38	4,59	
2	105,77	4,78	
8	105,31	4,55	
9	105,93	4,86	
10	105,52	4,66	
11	106,21	5,00	
12	104,90	4,35	
13	104,40	4,10	
14	104,83	4,31	
15	104,54	4,17	
16	104,72	4,26	
17	104,95	4,37	
18	104,71	4,25	
19	104,69	4,24	
20	105,26	4,53	
21	105,09	4,44	
23	105,92	4,86	
24	104,92	4,36	
25	104,73	4,26	Mean of 25
26	104,70	4,25	= — 4″,45
27	106,24	5,02	

1833	N. — S.	$\frac{96'',20 - N - S.}{2}$	Remarks.
	s.	*s.*	
Sept. 28	+ 107,17	— 5,48	
29	107,58	5,69	
30	106,70	5,25	
Oct. 1	107,41	5,60	
3	107,79	5,80	
4	107,23	5,51	
5	107,24	5,52	
6	107,17	5,49	
7	107,17	5,49	
8	107,23	5,51	
9	107,25	5,52	
11	107,27	5,53	
13	106,97	5,38	
14	106,19	5,00	
15	106,29	5,04	
16	106,12	4,96	
17	106,46	5,13	
18	106,09	4,94	
21	106,77	5,28	
22	106,64	5,22	
23	106,92	5,36	
24	106,98	5,39	
25	105,53	4,67	
Nov. 1	105,19	4,50	
3	105,88	4,84	
5	105,81	4,81	
7	106,77	5,28	Mean of 29
9	105,57	4,68	= — 5″,24
15	100,53	3,94	
16	100,77	4,06	
17	100,55	3,95	
18	99,26	3,30	
19	99,20	3,27	
20	99,47	3,41	
21	98,71	3,03	
22	99,33	3,34	
23	98,54	2,94	
24	98,82	3,08	
25	98,47	2,91	
26	98,20	2,77	Mean of 13
27	97,95	2,65	= — 3″,28
28	96,95	2,15	
29	96,68	2,01	
30	96,88	2,12	
Dec. 1	97,27	2,31	
2	96,71	2,03	
3	96,95	2,15	
4	96,51	1,93	
5	96,74	2,04	
6	96,92	2,13	

1833	N. — S.	$\frac{92'',65 - N - S.}{2}$	Remarks.	1833	N. — S.	$\frac{92'',65 - N - S.}{2}$	Remarks.
	s.	s.			s.	s.	
Dec. 7	+ 97,34	— 2,34		Dec. 19	+ 96,68	— 2,01	Mean of 23
8	97,34	2,34		20	95,93	1,64	= — 2″,43
9	97 27	2,31					
10	96,10	1,72		24	94,69	1,02	Inverted the axis.
11	95,89	1,62		25	94,76	1,05	
12	96,03	1,69		26	96,58	1,96	Inverted the axis.
13	96 83	2,09		27	95,21	1,28	
14	96.33	1,84		28	95,45	1,40	
15	96,57	1,96		29	95,45	1,40	
16	96,89	2,12		30	95,02	1,18	Mean of 8
17	97.85	2,60		31	94,90	1,12	= — 1″,30
18	96,33	1,84					

The following table exhibits the amount of error caused by an uncertainty of one second in the position of the Instrument for *unreduced* observations; and the amount of error *after reduction,* or the error which may be expected to attach to the places of the Sun, Moon, Planets, and fixed Stars which hereafter follow, in case an error of Azimuth to this amount has been committed.

North Polar Distance of the Object.		Correction for 1s. Error of Azimuth.		Error of the computed Result.
°		″		″
20	....	+ 0,1634	....	+ 0,178
25	....	+ 0,1245	....	+ 0,140
30	....	+ 0,0974	....	+ 0,112
35	....	+ 0,0776	....	+ 0,093
40	....	+ 0,0623	....	+ 0,077
45	....	+ 0,0499	....	+ 0,065
50	....	+ 0,0394	....	+ 0,054
55	....	+ 0,0304	....	+ 0,045
60	....	+ 0,0224	....	+ 0,037
65	....	+ 0,0152	....	+ 0,030
70	....	+ 0,0084	....	+ 0.023
75	....	+ 0,0023	....	+ 0,017
80	....	— 0,0036	....	+ 0,011
85	....	— 0,0095	....	+ 0,006
90	....	— 0,0151	....	0,000
95	....	— 0,0208	....	— 0,006
100	....	— 0,0265	....	— 0,011
105	....	— 0,0324	....	— 0,017
110	....	— 0,0387	....	— 0,024

North Polar Distance of the Object.	Correction for 1s. Error of Azimuth.	Error of the computed Result.
°	"	"
115	— 0,0455	— 0,030
120	— 0,0526	— 0,037
125	— 0,0609	— 0,046
130	— 0,0696	— 0,055
135	— 0,0801	— 0,065
140	— 0,0922	— 0,077
145	— 0,1077	— 0,093
150	— 0,1276	— 0,112
155	— 0,1544	— 0,139
160	— 0,1934	— 0,178

REDUCTIONS EMPLOYED.

In the reductions of the Observations for 1832 and 1833, I have continued to employ the numbers *a, b, c, d, &c.* given in the Catalogue of the Royal Astronomical Society, and for the numbers of A, B, C, D, I have availed myself of the values given in the Supplements to the Nautical Almanac, which I have reduced to nine o'clock in the evening for the Meridian of Madras; in the case of the Pole Star, and δ Ursæ Minoris the computations have been made for the moment of Transit.

ON THE CLOCK ERRORS AND CLOCK RATES.

In the result of Observations for 1831 Vol. I. I have explained at some length the method employed for the determination of the error and rate of the clock, and have exhibited the degree of accuracy to which the observa-

tions lay claims; on the present occasion I have therefore thought it sufficient to refer to these, and to state, that the reduction of the Observations for 1832 and 1833, have been effected agreeably to the plan there laid down with but one slight exception, namely; in the reductions for 1831, I had employed the Greenwich Catalogue of 720 Stars, whereas in the reduction for 1832 and 1833; those Stars only of this Catalogue have been employed, which are situated between the limits of 65° and 115° of North Polar Distance; by this arrangement we are enabled to correct the Right Ascension of a Star for any small error of Level, Azimuth, or Collimation which may have been committed in the reduction, from inequality of the Pivots, or from a wrong assumption of the position of either of the Marks with regard to the meridian: independant of this consideration, the more rapid motion of Equatoreal Stars through the field of view recommends them to preference where *general* accuracy only is our aim.

With regard to the accuracy of the determination of the Clock Errors, I may very safely claim for them an increased degree above that of 1831, and considering that with one exception only the same observers have been employed, this of course could only be expected; the exception I allude to is the exclusion of the Assistant S from making further observations; it will be recollected that towards the beginning of 1831 the observers S. M. A. R. and T. or my four Assistants and self agreed to two or three tenths of a second of time in estimating the time of Transit of a Star, whereas towards the end of that year, the Assistant S had acquired a habit of observing which gave rise to a difference of two seconds of time from the other three Assistants; in consequence of my absence from Madras at this time, (being otherwise employed in Calcutta) the evil was allowed to exist up to the middle of the year 1832, since which time I have not allowed the Assistant S to make any observations, and (agreeable to the plan followed in 1831) have employed only those observations of his before this time, which are situated in the vicinity of *known* Stars, and have rejected the rest; with regard to the Assistants M. R. and A. they continue up to the present time steadily to observe within two tenths of a second of myself and with about the same degree of accuracy. With a view to discover the cause of the difference above found, I lately tried the effect of pressure upon the Telescope whilst observing, this being the only means by which so large a discordance as two seconds might be accounted for, the result was, that a pressure of 5 pounds upon the end of the Telescope did not produce a deviation to the amount of 10 seconds of space; a fact, which (although it leaves us unsatisfied as to the present enquiry) speaks very satisfactorily with regard to the stability of the Telescope. With regard to

the going of the Clock; it will be remarked that its irregularities are both large and frequent; this is partly due to an ill constructed click, which I have not been able to get remedied at Madras, whereby the Clock has stopt, or tript, on the days of winding, (on the 1st and 15th of each month); and partly from the decayed state of the Clock case, which has allowed spiders to creep into the works; the latter cause has I hope now been removed by a new plank which I lately caused to be screwed to the back of the case, and the former it must be recollected does not affect the reduced places of the Sun or Stars; for the irregularities with which we *have* to contend, I may remark, that the method of reduction (the employment of the places of several known Stars, and separating the results into sets occupying two or three hours of A. R. only) keeps so severe a check upon the error of the Clock; that an error of one tenth of a second of time from this cause is of unfrequent occurrence; in a few cases however where uncertainty to the amount of 3 or 4 tenths has occurred, I have rejected the observations altogether.

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
Jan. 3	+ 2,43	+ 2,21	0,22	
5	.....	+ 2,51		
6	.....	+ 2,03		
10	+ 2,07	+ 1,92	0,15	
12	+ 1,72	+ 1,79	0,07	
13	.....	+ 2,84		
14	+ 2,27	+ 2,00	0,27	
16	.....	+ 2,66		
26	+ 2,50	+ 2,77	0,27	
27	+ 2,02	+ 2,27	0,25	
29	+ 2,07	+ 2,20	0,13	
30	.....	+ 2,31		
31	+ 3,10	+ 3,02	0,08	
Feb. 1	.....	.....	....	The Clock stopt in winding.
2	.....	+ 2,57		
3	.....	.....	....	Stopt the Clock four minutes.
4	+ 2,39	+ 2,37	0,02	
5	+ 2,39	+ 2,24	0.15	
6	+ 2,62	+ 2,63	0,01	
7	+ 2,18	+ 2,04	0,14	
8	+ 2,19	+ 2,13	0,06	
9	+ 2,22	+ 2,10	0,12	
10	+ 1,82	+ 1,88	0,06	
11	+ 2,15	+ 1,95	0,20	
12	.....	+ 2,08		
13	.....	+ 2,01		
14	.....	+ 1,94		
15	+ 1,89	+ 2,38	0,49	
18	.....	+ 2,99		

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
Feb. 19	.....	+ 2,98		
20	+ 3,09	+ 3,15	0,06	
21	+ 2,98	+ 2,87	0,11	
22	+ 2,74	+ 2.75	0,01	
23	+ 3,03	+ 2,72	0,31	
24	+ 2,50	+ 2,72	0,22	
25	+ 3,28	+ 2,70	0,58	
26	.....	+ 2,94		
27	.....	+ 2,90		
28	.....	+ 2,70		
29	.....	+ 3,13	....	Stopt(I presume) two seconds in winding.
March 1	.....	+ 0,36		
2	.....	+ 2.30		
3	+ 2,48	+ 2,40	0,08	
5	+ 2,64	+ 2,55	0,09	
6	+ 2,45	+ 2,26	0,19	
7	+ 1,99	+ 2,00	0,01	
8	+ 2 14	+ 2,44	0,30	
9	+ 2,12	+ 2,08	0,04	
10	+ 2,31	+ 2,50	0,19	
11	.....	+ 2,50		
12	.....	+ 2,46		
13	+ 2.41	+ 2,22	0,19	
14	+ 2.52	+ 2,52	0,00	
15	+ 1,87	+ 2,23	0,36	
16	+ 2,29	+ 2,25	0,04	
17	+ 2,27	+ 2,60	0,33	
18	+ 2,13	+ 2.39	0.26	
19	+ 2,07	+ 2,13	0,06	

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
March 20	+ 2,26	+ 2,10	0,16	
21	+ 1,81	+ 2,05	0,24	
22	+ 2,04	+ 1,92	0,12	
23	.....	+ 2,23		
24	+ 2,24	+ 2,14	0,10	
25	+ 2,02	+ 2,12	0,10	
26	+ 2,13	+ 2,28	0,15	
27	+ 2,27	+ 2,40	0,13	
28	+ 2,72	+ 3 05	0,33	
29	.....	+ 3,05		
30	.....	+ 3,43		
31	+ 3,65	+ 3,83	0,18	
April 1	.....	+ 3 21		
2	+ 3,68	+ 3,73	0,05	
3	+ 3,53	+ 3,33	0,20	
4	+ 2,99	+ 3,05	0,06	
5	+ 3,02	+ 2,97	0,05	
6	+ 3,00	+ 2,90	0,10	
7	+ 2,83	+ 2,83	0,00	
9	+ 2,71	+ 3,15	0,44	
10	+ 3,29	+ 3,13	0,16	
11	.....	+ 3,09	....	Stopt the Clock four minutes and lengthened the pendulum.
12	.....	+ 3,40		
13	.....	+ 2,57		
14	.....	+ 2,80	....	The Click refused to do its duty in consequence the Clock stopt for several seconds in winding.
15	.....	+ 0,21		
16	.....	0,00		
17	.....	— 0,24		
18	— 0,43	— 0,36	0,07	
19	— 0,46	— 0,43	0,03	
20	— 0,23			
21	— 0,65	— 0,98	0,33	
22	— 0,10	— 0,45	0,35	
23	— 0,36	— 0,54	0,18	
24	— 0,24			
25	— 0,85			
26	— 0,03	— 0,38	0,35	
27	+ 0,20	0,00	0,20	
28	— 0,56	— 0,46	0,10	
29	— 0,14	— 0,29	0,15	
30	+ 0,02	+ 0,05	0,03	
May 1	— 0,06	0,00	0,06	
2	+ 0,14	— 0,37	0,51	
3	— 0,44	+ 0,11	0,55	
4	— 0,03	— 0,27	0,24	
5	— 0,46	— 0,27	0,19	
6	— 0,55	— 0,19	0,36	
7	— 0,12	— 0,41	0,29	
8	— 0,09	— 0,16	0,07	
9	+ 0,21	— 0,09	0,30	
11	+ 4 +	.....	....	The Clock probably tript 4 seconds.
12	— 0,35	0,00	0,35	
13	.....	+ 0,65		

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
May 14	.....	+ 0,92		
15	+ 1,14	+ 4,68	....	The Clock tript in winding.
16	.....	+ 3,29		
17	.....	+ 9,62	....	I removed the head of the Clock and cleaned the scapement, &c. and applied fresh oil.
18	.....	— 0,20		
19	.....	— 1,57		
20	.....	— 1,64		
21	.....	— 1,67		
22	.....	— 2,00		
23	.....	— 1,66		
25	— 1,22			
26	— 0,64	— 1 05	0,41	
27	.....	— 1,08		
28	.....	— 1,02		
29	.....	— 0,72		
30	.....	— 0,81		
31	.....	— 0,87		
June 1	— 0,80	— 1,05	0,25	
2	— 1,83			
4	— 1,89	— 1,65	0,24	
5	— 2,37	— 2,44	0,07	
7	— 2,22			
8	— 2,61			
9	— 2,27	— 2,30	0,03	
10	.....	— 2,54		
11	— 2,50	— 2,54	0,04	
12	— 2,72	— 2,36	0,36	
13	— 2,48	— 2,82	0,34	
14	— 3,27	— 3,18	0,09	
15	— 3,00	— 2,86	0,14	
16	— 2,78	— 2,90	0,12	
18	— 2,71			
23	— 2,88			
27	+ 3,48			
28	+ 4,99			
July 2	+ 2,31			
3	+ 0,65			
5	+ 6,34			
7	.....	.....	....	The Clock was cleaned by Mr. Law.
16	.....	— 5,00		
20	— 4,61			
25	— 5,27	— 5,05	0,22	
26	— 5,20			
28	— 5,54			
29	.....	— 5,43		
30	— 5,48			
Aug. 1	+ 7,54			
2	+ 6,88			
3	+ 7,46			
5	+ 8,49			
7	.....	.....	....	The Clock was inspected by Mr. Law.

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
Aug. 8	+15,81	.....	....	Regulated.
14	— 4,51	— 5,00	0,49	
17	— 5,14	— 5,00	0,14	
18	— 5,14	— 5,28	0,14	
19	— 5,38			
20	— 5 13	— 5,19	0,06	
21	— 5,46			
22	— 5 09			
23	— 5,49	— 5,27	0,22	
24	.....	— 5,39		
25	— 5,34			
27	.....	— 5,46		
28	— 4,85	— 5,08	0,23	
29	— 5,33			
30	— 5,36	— 5,27	0,09	
31	— 5,05	— 3,82		
Sept. 1	.....	+ 0,23		
4	+ 1,70	+ 1,13	0,57	
6	.....	+ 1,17		
7	+ 1,20	+ 1,45	0,25	
9	+ 1,88	+ 2,25	0,37	Advanced the Clock 3 minutes.
11	.....	+ 0,33		
12	.....	+ 0,64		
14	.....	+ 0,58		
15	+ 0,56	+ 1,01	0,45	
19	.....	+ 1,76		
21	— 5,07			
22	— 5,11	— 5,06	0,05	
23	— 5,05	— 5,11	0,06	
24	— 5,55	— 5,09	0,46	
25	— 4,97			
26	— 4,37	— 4,43	0,06	
27	— 4,24	— 4,39	0,15	
28	— 4,25			
30	.....	— 1,39		
Oct. 1	.....	+10,23	....	Wound up the Clock.
2	+12,59	+14,53		
3	.....	+14,04		
4	.....	+12,62		
5	.....	+ 8,97		
6	+ 7,94	+ 7,84	0,10	
7	+10,07			
8	+ 6,85	+ 5,56		
9	+ 4,36	+ 4,42	0,06	
11	+ 4,17	+ 4,19	0,02	
12	+ 3,70	+ 4,76		
13	+ 4,43	+ 4,22	0,21	
14	.....	+ 5,11		
15	+ 4,77	.....	....	Wound up the Clock.
19	.....	— 0,10		
20	— 1,18			
21	+ 0,32	+ 1,00		
22	+ 0,95	+ 1,26	0,31	

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
Oct. 23	+ 1,07	+ 1,01	0,06	
24	+ 0,91	+ 0,87	0,04	
25	.....	+ 0,14	....	Stopt the Clock two minutes.
26	+ 0,55	+ 0,29	0,26	
27	+ 0,32	+ 0,37	0,05	
28	.....	+ 0,41		
29	.....	+ 1,31		
30	+ 1,46	+ 1,27	0,19	
31	+ 0,77	+ 0,42	0,35	
Nov. 1	+ 0,40	+ 0,20	0,20	
2	.....	+ 0,54		
3	+ 0,42	+ 1,07	0,65	
4	+ 5,26	+ 8,91		
5	.....	+ 8,42		
7	.....	.....	....	I cleaned the Clock.
9	.....	— 4,39		
10	— 4,55	— 4,49	0,06	
12	.....	— 4,57		
13	— 4,47	— 4,47	0,00	
15	— 4,61	— 4,52	0,09	
16	— 4,51	— 4,33	0,18	
17	— 4,06	— 4,20	0,14	
18	— 4,25	— 4,06	0,19	
19	— 4,38	— 4,22	0,16	
21	— 3,79			
22	— 4,53	— 3,90	0,63	
23	— 4,11	— 4,23	0,12	
24	— 4,26	— 4,12	0,14	
25	— 4,49	— 4,56	0,07	
26	— 4,10			
27	— 4,44			
29	.....	— 4,56		
30	— 4,58	— 4,53	0,05	
Dec. 1	— 4,87			
4	.....	— 4,65		
5	— 4,42	— 4,40	0,02	
6	.....	— 4,47		
7	— 4,41	— 4,47	0,06	
8	— 3,93	— 4,20	0,27	
9	— 4,56	— 4,15	0,41	
10	— 4,40	— 4,24	0,16	
11	.....	— 4,40		
12	.....	— 4 81		
14	— 4,61	— 4,67	0,06	
15	— 4,82	— 4,84	0,02	
16	.....	— 4,24		
17	.....	— 4 12		
18	.....	— 4,79		
19	— 4,02	— 4,43	0,41	
20	— 4,76	— 4,46	0,30	
21	— 4,61	— 4,89	0,28	
22	— 5,17			
23	— 5,14			

1832	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
Dec. 24	— 4,76	— 4,83	0,07	
25	— 4,51	— 4,70	0,19	
26	— 4 91	— 4,53	0,38	
27	— 4,51	— 4,93	0,42	
28	— 4 63			
29	— 4,62			
1833				
Jan. 3	— 3,74	— 3,56	0,18	
4	— 3,41	— 3,37	0,04	
5	— 3,52	— 3,17	0,35	
6	— 3,29	— 3,28	0,01	
7	— 3,40			
8	— 3,74	— 3.63	0,11	
9	— 3,34	— 3,50	0,16	
10	— 3 73	— 3,99	0,26	
11	— 3 74	— 3,56	0,18	
12	— 3,44	— 2,98	0,46	
14	— 2,80	— 2,93	0,13	
15	.....	+ 0,25	....	Regulated the Clock.
16	+ 0,20	+ 0,25	0,05	
17	+ 0,74	+ 0,64	0,10	
18	+ 0,86	+ 0,62	0,24	
19	+ 0,44	+ 0,50	0,06	
20	+ 0,68	+ 0,20	0,48	
21	— 0,04	+ 0,06	0,10	
22	+ 0,14	+ 0,18	0,04	
23	.....	— 0,05		
24	.....	— 0,23		
25	.....	— 0,14		
26	— 0,20	0,00	0,20	
27	.....	— 0,42		
28	— 0,12	— 0,48	0,36	
29	— 0,21	— 0,46	0,25	
30	— 0,13	0,00	0,13	
31	— 0,01	+ 0,04	0,05	
Feb. 1	+ 0,26	+ 0,16	0,10	
2	+ 0,31	+ 0,12	0,19	
3	+ 0,17	+ 0,15	0,02	
4	+ 0,11	— 0,11	0,22	
5	— 0,32	— 0,12	0,20	
6	— 0,10	0,00	0,10	
7	+ 0,02	.....		
8	+ 0,20	+ 0,05	0,15	
9	+ 0,56	+ 0,74	0,18	
10	.....	+ 0 64		
11	+ 0,63	+ 0,39	0,24	
12	+ 0,74	+ 0,78	0 04	
13	+ 0,81	+ 0,89	0,08	
14	+ 0,50	+ 0,85	0,35	
15	+ 0,59	+ 0,58	0,01	
16	+ 0,59	+ 0,65	0,06	

1833	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
Feb. 17	+ 0,89	+ 0,73	0,16	
18	+ 0,67	+ 0,64	0,03	
19	+ 0,81	+ 0,74	0,07	
20	+ 0,58	+ 0,27	0,31	
21	+ 0,62			
22	+ 1,69			
23	.....	.....	....	The Clock tript 9 seconds; I applied fresh oil to the escapement.
24				
25				
26	+ 0,27	+ 0,46	0,19	
27	+ 0,79	+ 0,73	0,06	
28	+ 2,08			
March 1	+ 1,70	+ 1,18	0,52	
2	+ 0,96	+ 1,05	0,09	
3	+ 0,80	+ 0,52	0,28	
4	+ 0,32	+ 0,63	0,31	
5	+ 0,67	+ 0,88	0,21	
6	+ 0,98	+ 0,65	0,33	
7	+ 0,38	+ 0,52	0,14	
8	+ 0,46	+ 0,74	0,28	
9	+ 1,23	+ 0,90	0,33	
10	.....	+ 0,79		
11	+ 0,60	+ 1,00	0,40	
12	+ 0,67	+ 0,46	0,21	
13	+ 0,40	+ 0,46	0,06	
14	+ 0,41	+ 0,46	0,05	
15	+ 1,32	+ 1,86	0,54	
16	.....	+ 3,86		
17	.....	+ 3,97		
18	.....	+ 1,80		
19	+ 1,17	+ 1,61	0,44	
20	+ 2,00	+ 2,00	0,00	
21	+ 1.42	+ 0,80	0,62	
22	+ 0,58	+ 0,84	0,26	
23	+ 0,65	+ 0,65	0,00	
24	.....	+ 1,93		
25	+ 1,27	+ 0,63		
26	+ 0,69	+ 0,95	0,26	
27	+ 0,80	+ 0,88	0,08	
28	+ 0,83	+ 0,65	6,18	
29	+ 0,70	+ 0,62	0,08	
30	+ 0,47	+ 0,43	0,04	
31	+ 0,50	+ 0,54	0,04	
April 1	+ 0 33	+ 0,60	0,27	
2	+ 0,83	+ 0,60	0,23	
3	+ 0,39	+ 0,35	0,04	
4	+ 0,60	+ 1,46		
5	.....	+ 1,87		
6	.....	+ 0,74		
7	.....	+ 1,61		
8	.....	+ 2,51		
9	+ 2,72	+ 2,88	0,16	
10	+ 3,23			

1833	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
April 11	+ 1,89			
13	.....	+ 2,80		
14	.....	+ 3,23		
15	+ 6,53	+ 8,14		
16	+ 7,57	+ 5,83	....	I found a fine cobweb attached to the escapement which I removed.
17	+ 2,68	+ 2,25	0,43	
18	+ 2,11	+ 2,37	0,26	
19	+ 2,69	+ 3,00	0,31	
20	.....	.....	....	Regulated the Clock.
21	.....	— 2,01		
22	— 1,84	— 2,05	0,21	
23	— 2,12	— 2,40	0,28	
24	— 2,48	— 2,37	0,11	
25	— 2,16	— 2 35	0,19	
26	.....	— 2,12		
27	— 2,27	— 2,24	0,03	
28	— 1,56	— 1,28	0,28	
29	— 2,32	— 2,91	0,59	
30	— 3,10	— 3,25	0,15	
May 1	— 3,44	— 3,43	0,01	
2	— 3,34	— 3,28	0,06	
3	— 3,42	— 3,19	0,23	
4	— 3,00	— 2,76	0,24	
5	.....	— 2,70		
6	— 2,72	— 2,70	0,02	
7	— 2,83			
8	— 3,32	— 3,38	0,06	
9	— 3,76	— 3,63	0,13	
10	— 3,41	— 3,51	0,10	
11	— 3,36	— 3,50	0,14	
12	— 3,55	— 3,35	0,20	
13	— 3,65	— 4,07		
14	— 3,77			
19	— 3,08			
20	— 3,62			
22	— 3 52			
23	— 5 02	— 4,53	0,49	
24	— 4,46	— 4,67	0,21	
25	— 4,95			
26	— 5 31			
28	— 4,81			
29	+ 4 07			
30	+ 4,97	+ 5,54		
31	+ 5 90	+ 6,27	0,37	
June 1	+ 6,45	.....	....	Wound up the Clock.
2	— 3,55	— 4 75		
3	— 4,41	— 3,40		
4	— 3,39			
5	— 4,03			
6	— 4,16			
7	— 4,50			
8	— 4,38	— 4,54	0,16	
9	.....	— 4,66		

1833	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	*s.*	*s.*	
June 11	.....	— 4 51		
12	— 4,66	— 4,62	0,04	
13	— 4,63	— 4,81	0,18	
14	— 4,70	— 4,50	0,20	
19	.....	.....	....	Regulated the Clock.
21	.....	— 0,02		
22				
23	.....	— 0,20		
26	— 1,52			
27	— 2,14			
28	— 2,44			
29	— 3,01	— 3,31	0,30	
30	.....	— 3,78		
July 1	— 3,91	— 4,52		
2	— 4,21	— 4,20	0,01	
3	— 4,52			
5	— 4,45	— 4,46	0,01	
7	.....	— 4,61		
8	.....	— 5,48		
9	— 5,59			
12	.....	.....	....	Regulated the Clock.
13	+ 0,60	+ 0,42	0,18	
15	+ 0,44	+ 0,02	0,42	
16				
17	+ 0,10			
18	+ 0,09			
19	— 0,10			
20	— 0,26	— 0,24	0,02	
21	— 0,80			
23	.....	— 0,94		
25	— 0,66	— 0,66	0,00	
26	.....	— 0,67		
27	— 0,80	— 0,85	0.05	
28	— 1,06	— 0,76	0,30	
29	— 1,10			
30	— 1,00			
Aug. 1	— 0,66	— 0,63	0,03	
2	— 0,26	— 0,85	0,59	
3	— 0,71			
4	— 0,53	— 0,69	0,16	
5	— 0,29	— 0,48	0,19	
6	— 1,33	— 1,20	0,13	
7	— 0,89	— 1,14	0,25	
8	— 0,54	— 0,91	0,40	The minute hand of the Clock stopt, in consequence of having become loose.
10	.....	— 2,51		
11	— 2,68			
12	— 2,57	— 2,75	0,18	
13	— 1,84			
14	.....	— 1,68		
15	— 2,09	— 1,77	0,32	
16	— 1,94			
17	— 0,91	— 0,74	0,17	
18	.....	— 1,41		

1833	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	s.	s.	
Aug. 23	— 1,59	— 1,63	0,04	
24	— 2,01			
28	— 1,22			
29	.....	— 1,44		
30	— 1,19	— 1,05	0,14	
31	— 1,56			
Sept. 2	— 1,41			
3	— 0,58			
5	.....	.....	....	An alteration of about 30 seconds in the error of the Clock took place between the 3d and 5th.
6	— 0,38			
7	— 1,17			
8	— 0,84	— 1,17	0,33	
9	— 1,37	— 1,00	0,37	
10	— 1,36	— 1,65	0,29	
11	— 1,52	— 1,08	0,44	
12	— 1,45	— 1,50	0,05	
13	.....	— 1,49		
14	.....	— 1,27		
15	— 1,16	— 1,39	0,23	
16	— 1,25			
17	.....	— 0,75		
18	— 0,96	— 1,46	0,50	
19	— 1,36			
21	.....	— 1,64		
26	— 1,53	— 1,26	0,27	
27	— 0,36			
28	— 1,78			
29	— 1,90			
30	.....	— 1,46		
Oct. 2	.....	— 1,62		
4	— 1,47	— 1,46	0,01	
5	.....	— 1,20		
6	— 1,38	— 1,50	0,12	
7	.....	— 1,68		
8	.....	— 1,61		
9	.....	— 0,77		
10	.....	— 0,93		
11	.....	— 1,18		
12	.....	— 1,24		
13	.....	— 0,94		
14	.....	+ 0,31		
15	+ 0,06			
16	+ 0,85	+ 0,78	0,07	
17	.....	+ 2,12		
18	+ 2,30			
19	+ 2,56	+ 2,65	0,09	

1833	Clock Rate by Sun.	Clock Rate by Stars.	Difference.	Remarks.
	s.	s.	s.	
Oct. 20	.....	+ 1,92		
21	.....	+ 0,80		
22	+ 1,62	+ 1,41	0,21	
23	+ 1,27	+ 1,21	0,06	
24	.....	+ 1,14		
31	.....	+ 0,85		
Nov. 1	+ 0,77			
5	.....	+ 2,10		
6	.....	+ 0,83		
7	.....	+ 0,41	....	Forwarded the Clock two minutes.
16	.....	+ 1,06		
17	.....	+ 1,55		
18	.....	+ 0,96		
19	— 1,37	— 2,05		
20	.....	— 1,99		
21	.....	— 1,88		
22	— 1,46			
23	.....	— 1,67		
29	— 1,73			
Dec. 1	— 1,27			
2	— 1,06	— 1,49	0,43	
3	— 1,08	— 0,83	0,25	
4	.....	— 0,34		
5	— 0,50	— 0,51	0,01	
6	.....	— 0,88		
7	— 0,92	— 0,86	0,06	
8	— 0,75			
9	— 0,85	— 0,89	0,04	
10	— 0,74			
11	— 1,22	— 1,12	0,10	
12	— 0,93	— 1,10	0,17	
13	.....	— 1,16		
14	— 1,19			
17	.....	— 2,40		
18	— 2,15	— 2,28	0,13	
19	— 2,61	— 2,72	0,11	
20	— 2,21	— 1,93	0,28	
22	— 2,62			
23	— 3,02	— 2,77		
24	— 2,35	— 2,49	0,14	
25	.....	— 2,13		
26	— 2,42	— 2,46	0,04	
27	— 2,33			
29	.....	— 1,64		
30	— 1,99	— 2,13	0,14	
31	— 2,96			

OF THE MURAL CIRCLE.

This Instrument having been already sufficiently described in Vol. I, it is only necessary for me here to remark that I have continued to employ the full aperture ($3\frac{3}{4}$ Inches) and the same power (about 140) as heretofore. Towards the end of the year 1832, being desirous of ascertaining the amount of error of some of the divisions, I availed myself of the cloudy evenings which then occurred, to measure the angular distance between two *collimators*, which I had previously adjusted to subtend an angle of 90°; by this means I was put in possession of the error of the points 90° 180° 270°.

I now placed two collimators so as to subtend an angle of 30° and thus obtained the error of the points 30°, 60°, 120°, &c. and subdividing these, eventually arrived at the errors of every fifth degree; the particulars of these measurements having been transmitted to England for publication, it is only necessary for me to remark, that the largest error which would be committed by the employment of any division together with that situated at 180° distance, did not exceed 2″,5; and this is probably too large, being subject to the errors of observation. On the occasion of making these observations it was necessary to unclamp the Telescope from the circle, and on again clamping it to readjust the Telescope for Level, &c.; but at no other time during the years 1832 and 1833, has any adjustment been found necessary. On inspecting the rough observations a consistency is found to exist among the microscope readings which speaks in a manner highly creditable for the stability of the axis. With regard to the state of the Instrument I may safely assert, that now, after three and a half years of active employ, it is in no respect injured by wear, and but little deteriorated in appearance.

METEOROLOGICAL INSTRUMENTS EMPLOYED.

The Barometer employed at the beginning of 1832 was made by Cary; this

on being compared (see page 59, Vol. I.) with Standard Barometer No. 3, by Gilbert, shewed that the indications of the former were in defect 0,152 Inches, hence it is necessary to increase the Barometrical indications set down in the Mural Circle Book by this amount from the 1st January up to the 20th February 1832; for the observations after this date the Standard Barometer No. 3, by Gilbert was employed, which consequently only requires the correction for capilliary action + ,027. With a view to discover if the Barometer in question has remained undisturbed, I have occasionally compared it with another Standard No. 6, by Gilbert; the result of these comparisons shew that the same difference (,018) exists between them as found in Calcutta, when they were compared with the other Standards in the Surveyor General's Office. The Thermometers employed at the commencement of 1832 were A and B by Jones, which from comparisons made with the Standard A belonging to the Surveyor General's Office at Calcutta, appear to be 0°,54 and 0°,47 respectively *too low;* hence, (Thermometer A having been employed "*in doors*" for 1832 and 1833) it becomes necessary to add 0°,54 to the in door Thermometer as set down in the Circle Book; for the Thermometer "*without*", the Thermometer B was employed up to 1st March 1832; for which period the indications must consequently be increased 0°,47: after this time and up to the end of 1833, a Standard Thermometer by Troughton was employed, which I selected in Calcutta as agreeing with the Standard A in the Surveyor General's Office; consequently from the 1st March 1832 up to the end of 1833, the *out door* Thermometer as set down in the Mural Circle Book does not require correction.

OBSERVATIONS MADE WITH THE MURAL CIRCLE.

Having found it inconvenient to observe the reflected image of Stars from a basin of quicksilver by reason of the disturbance necessarily produced by the observer at the Transit Instrument, I have during the years 1832 and 1833, given up observing by reflection. In the determination of the Index Error I have continued to employ those Stars of the Greenwich Catalogue which are situated between 25° and 90° of N. P. D. these being the limits between which the uncertainty of refraction is but small.

In the reduction of the Greenwich Catalogue Bradley's table of refraction was employed, whereas in the reduction of the Madras Results I have for reasons explained at Page 61, Vol. I. employed Atkinson's table; I have consequently reduced the Greenwich Catalogue to the tenor of Atkinson's table of refraction before using it in computing the Index Error (see Page 62, Vol. I.)

The table of Index Errors which now follows has been employed in computing the places of the fixed Stars, and the Planets when the centre of the body has been observed; but in the case of the Sun and Moon, and of Planets where the *limb* has been observed, an allowance has been made of 1″,2 for the semi-diameter of the wire.

Index Error of the Madras Mural Circle for the years 1832 *and* 1833.

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1832		′ ″	′ ″	
Jan. 1	14	— 2 58,41		
3	12	2 59,11		
5	21	2 59,08		
6	9	3 0,19		
10	8	2 59,06		
12	4	2 59,40		
13	9	3 1,04		
14	12	3 4,37		
18	9	3 1,20		
22	17	3 1,40		
24	9	3 2,00		
26	20	3 1,66		
27	18	3 2,33		
28	13	3 2,52		
29	12	3 1,95		
30	14	3 2,45		
31	9	3 3,93		
Feb. 1	13	3 3,00		
2	12	3 2,79		
3	12	3 3,73		
4	10	3 3,74		
5	10	3 3,51		
6	11	3 3,29		
7	4	3 3,36		
8	9	3 2,30		
10	11	3 2,50		
11	7	3 2,19		
13	9	3 2,70		
15	15	3 2,14		
1832		′ ″	′ ″	
Feb. 19	8	— 3 3,44		
21	11	3 4,04		
23	10	3 4,62		
24	11	3 2,03		
26	21	3 18,11	.....	I adjusted the microscopic readings.
27	7	3 16,09		
29	15	3 16,47		
March 1	11	3 16,63	— 3 16,37	
2	10	3 16,37		
4	15	3 16,28		
5	6	3 15,61		
7	8	3 15,25	— 3 15,47	
10	13	3 15,55		
11	8	3 27,81	.....	I took the Instrument down, and applied fresh oil to the axis.
12	6	3 28,16		
13	8	3 28,48		
15	10	3 28,88		
18	12	3 28,80		
20	13	3 26,85		
23	9	3 27,03		
24	10	3 28,05		
25	8	3 27,30		
26	8	3 27,41		
28	9	3 27,59		
29	9	3 28,55		
30	6	3 28,36		
31	10	3 28,57		
April 1	12	3 28,13		
3	20	3 27,32	— 3 27,61	

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1832		′ ″	′ ″	
April 4	10	— 3 27,21		
6	14	3 28,04		
10	10	3 27,49		
12	9	3 27,39	— 3 27,61	
13	7	3 27,53		
14	6	3 28,42		
16	8	3 27,43		
20	7	3 26,83		
22	10	3 25,17		
24	6	3 25,32		
26	11	3 24,99		
28	14	3 24,51	— 3 24,89	
30	12	3 24,24		
May 1	4	3 24,64		
2	6	3 25,37		
4	10	3 26,42		
9	11	3 27,75		
11	7	3 26,60	— 3 26,77	
12	10	3 26,72		
16	14	3 26,39		
17	5	3 25,46		
18	8	3 25,25		
20	10	3 25,51		
22	10	3 24,86	— 3 25,23	
26	9	3 25,46		
28	7	3 24,88		
31	7	3 25,00		
June 5	9	3 25,44		
10	7	3 24 04		
12	11	3 23,59		
17	13	3 25,33		
22	3	3 25,17		
July 29	11	3 23,25		
Aug. 8	10	3 23,22		
11	12	3 22,28		
15	7	3 21,74		
18	12	3 22,85		
23	13	3 23,88		
24	11	3 23,70		
26	11	3 25,02		
27	8	3 24,25		
28	13	3 24,36		
31	10	3 25,39		
Sept. 7	10	3 24,97		
9	10	3 24,05		
11	10	3 23,95		
19	14	3 23,78		
22	11	3 24,67		
23	9	3 25,63		
24	13	3 24,39		
25	15	3 24,78		
26	12	3 24,44		

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1832		′ ″	′ ″	
Sept. 27	11	— 3 25,11		
30	7	3 25,18		
Oct. 1	13	3 25,09		
2	10	3 24,65		
3	15	3 25,88		
7	11	3 25,28		
9	10	3 24,22		
11	9	3 25,12		
21	15	3 25,15		
24	10	3 24,00		
26	10	3 25,00		
27	7	3 24,27		
29	7	3 26,39		
30	11	3 26,03		
31	8	3 25,27		
Nov. 2	9	3 25 65		
3	9	3 22,42		
4	9	3 23,64		
8	7	3 24 71		
10	7	3 23,06		
12	7	3 24,59	.....	Unclamped the Telescope.
16	9	1 19,14		
17	9	1 19,74		
19	11	1 20,16		
21	6	1 20,10		
22	8	1 19,84		
25	12	1 20,17		
29	11	1 18,84		
30	6	1 17,60		
Dec. 4	8	4 46,81	.....	Unclamped the Telescope.
6	8	4 47.47		
8	13	2 50,41	.....	Do. do.
12	7	3 2,73	.....	Do. do.
13	6	3 0,11		
16	12	4 24 04	.....	Do. do.
17	8	4 23.57		
18	7	4 25,01		
19	5	4 24 67		
21	11	7 17,71	.....	Do. do.
22	9	7 16,53		
24	10	7 17,48		
25	9	7 18,36		
27	5	3 3,13	.....	I took down the Circle and cleaned the axis.
1833				
Jan. 2	11	3 4.30		
3	17	3 5,36		
4	17	3 5,85		
5	9	3 6,05		

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1833		′ ″	′ ″	
Jan. 6	11	— 3 4,66		
8	11	3 4,74	— 3 4,56	
10	9	3 4,08		
11	8	3 4,74		
14	12	3 5,12	— 3 5,12	
15	11	3 5,12		
16	11	3 5,51		
17	9	3 6,38		
18	8	3 5,56		
19	10	3 6,08		
20	7	3 5,89		
21	9	3 5,53		
22	8	3 5,63	— 3 5,83	
23	11	3 6,45		
25	17	3 5,90		
26	14	3 5,76		
27	14	3 5,73		
28	16	3 5,84		
29	12	3 5,64		
31	9	3 6,55		
Feb. 2	12	3 6,33		
4	11	3 5,89		
5	8	3 6,27		
6	12	3 4,35		
8	13	3 4,36		
9	16	3 5,06		
10	13	3 5,71		
11	14	3 5,35		
12	14	3 5,58	— 3 5,57	
13	13	3 5,67		
14	13	3 5,53		
15	14	3 6,25	— 3 6,29	
16	11	3 6,33		
17	7	3 5,30		
18	12	3 5,69		
19	12	3 6,32		
20	11	3 5,21		
21	10	3 5,58		
22	14	3 5,38	— 3 5,65	
23	12	3 5,76		
24	10	3 5,57		
26	16	3 5,81		
27	12	3 5,98		
28	12	3 5,77		
March 1	13	3 5,52		
2	11	3 5,04		
4	21	3 5,18		
5	13	3 5,07		
6	16	3 4,56		
7	14	3 4,49		
8	14	3 3,94		
9	15	3 3,46		

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1833		′ ″	′ ″	
March 10	16	— 3 6,27	.....	Unclamped the Telescope.
12	17	1 34,75		
13	19	1 34,35		
14	20	1 35,30		
15	19	1 35,11		
16	17	1 36,48		
17	18	1 36,45		
18	19	1 36,26		
19	16	1 37,09	— 1 36,58	
20	16	1 36,75		
21	15	1 36,53		
22	19	1 36,50		
23	15	1 35,30		
24	15	1 35,49		
25	15	1 34,91	— 1 35,36	
26	10	1 35,23		
27	11	1 35,72		
28	12	1 35,47		
29	14	1 36,22		
30	7	1 36,39	— 1 36,41	
31	13	1 35,75		
April 1	10	1 36,60		
2	13	1 35,93		
3	17	1 35,40		
4	14	1 35,52		
5	7	1 35,01	— 1 35,28	
6	11	1 35,28		
7	9	1 35,19		
8	9	1 34,36		
9	6	1 33,45		
13	9	1 34,31		
15	8	1 33,28		
17	9	1 33,26	— 1 33,24	
19	9	1 33,19		
20	6	1 33,90	— 1 33,92	
22	9	1 33,94		
24	12	1 35,44		
27	12	1 34,07		
28	8	1 32,80		
30	8	1 33,80		
May 3	10	1 32,26		
4, 9	8	1 31,57	— 1 31,52	
23	10	1 31,47		
24, 30	8	1 32,06		
June 2	10	1 30,85		
7	7	1 30,04		
8	8	1 28,56		
9	10	1 27,78		
11	8	1 28,69		
12	8	1 28,39		
20	10	1 26,82		
28	10	1 26,77		

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1833		′ ″	′ ″	
June 30	9	— 1 27,11		
July 2	12	1 25,95		
5	11	1 27,72		
8	11	1 26,00		
12, 16	11	1 27,53		
23	10	1 27,18	— 1 27,37	
26	10	1 27,39		
Aug. 1	12	1 26 83		
3	14	1 25 78		
5	15	1 26 99		
7	11	1 25,60	— 1 26,38	
10	13	1 27,06		
14	14	1 26,23		
16	14	1 26,16		
29	14	1 27,84		
Sept. 5	14	1 26,66		
9	12	1 27,66		
10	8	1 28,87		
11	8	1 28,19		
13	14	1 28,89		
15	13	1 28,39	— 1 28,55	
20	11	1 28,61		
26	14	1 28,33		
30	7	1 28,55		
Oct. 2	9	1 28,47		
4	7	1 28,34		
7	11	1 28,71		
11	15	1 27,33	— 1 28,38	
12	9	1 28,10		

Date.	No. of Observations.	Index Error.	Mean.	Remarks.
1833		′ ″	′ ″	
Oct. 13	8	— 1 28,15		
15	11	1 28,29		
16	7	1 28,99	— 1 28,38	
20	13	1 28,73		
23	13	1 27,95		
Nov. 1	15	1 28,70		
9	7	1 25,22	— 1 25,18	Much rain which fell between the 1st and 9th, may have occasioned this change.
17	8	1 25,14		
19	14	1 24,44		
21	14	1 23,94		
22	10	1 24,25	— 1 24,30	
23	11	1 24,56		
Dec. 2	15	1 24 33		
3	13	1 24,99		
4	13	1 24,59	— 1 24,85	
5	12	1 24,96		
6	10	1 25,56		
7	8	1 25,48	— 1 25,52	
8	10	1 26,57		
9	8	1 26,90		
10	11	1 27,75		
14	18	1 28,19		
18	10	1 25,70		Much rain.
20	11	1 25,81	— 1 25,86	
23	12	1 25,47		
25	14	1 28,12		
27	15	1 27,84	— 1 27,98	
29	11	1 26,89		
31	15	1 27,34	— 1 27,11	

RESULT OF OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT AND MURAL CIRCLE, IN THE YEARS 1832 AND 1833.

In the first place we will examine the observations of the Sun; the observed transit of the first and second limb over the five wires furnishes us with the means of determining the semi-diameter; for we have ⊙ mean semi-diameter = $\left(\frac{\odot\ 2\ \mathrm{L} - \odot\ 1\ \mathrm{L}}{30}\right)\left(1 + \frac{a^1 - a}{48}\right)$ *sin.* N.P.D. + Log. ⊖ − ⊙. Where a and a^1 represent the Right Ascension of the Sun, at the noon preceding, and at the noon following the day of observation; in the next place, correcting the observed A.R. for the error of the Clock, and the observed N.P.D. for refraction parallax and Semi-diameter, we obtain results which we will now compare with the places interpolated from the Nautical Almanac, as follows.

Comparison of the observed A.R. and N.P.D. of the Sun, with their places interpolated from the Nautical Almanac, &c.

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	*m.*	*s.*	*m.*	*s.*	*s.*	*m.*	*s.*
Jan. 1	18	43	11,27	43	11,40	+ 0,13	113	5	10 16	5	16,00	+ 5,84	15	58,02
2	.....			.....		.....	113	0	25,66	0	30,00	+ 4,34		
3	18	52	1,81	52	1,50	— 0,31	112	55	9,19	55	14,00	+ 4,81	16	1,44
4	.....			.....		.....	112	49	25,77	49	31,00	+ 5,23		
6	19	5	14,50	5	13,90	— 0,60	112	36	43,55	36	44 00	+ 0,45	16	1,64
7	19	9	38,17	9	37,20	— 0,97	112	29	39,23	29	41,00	+ 1,77	15	58,00
8	19	14	0,85	14	0,00	— 0,85	112	22	4,23	22	12 00	+ 7,77		
9	19	18	22,72	18	22,30	— 0,42	112	14	11,47	14	17,00	+ 5.53	16	0.80
10	19	22	44 67	22	44.10	— 0,57	112	5	46,20	5	54,00	+ 7.80	16	0,18
11	19	27	6,35	27	5 30	— 1,05	111	56	57,08	57	3,00	+ 5,92		
12	19	31	26,78	31	35.80	— 0,98	111	47	47,83	47	46,00	— 1,83	16	2,34
13	19	35	46 46	35	45,70	— 0,76	111	38	2,25	38	4,00	+ 1,75		
14	19	40	5,78	40	5,10	— 0,68	111	28	0,62	28	0,00	— 0,62	16	3,33
15	19	44	24,63	44	23,50	— 1,13	111	17	30,45	17	32 00	+ 1.55	16	3,18
18	.....			.....		.....	110	43	35,60	43	38,00	+ 2,40		
19	.....			.....		.....	110	31	28,91	31	32,00	+ 3,09	16	3,28
21	.....			.....		.....	110	6	10,93	6	10,00	— 0,93		
22	.....			.....		.....	109	52	58,42	52	55,00	— 3,42		
24	20	22	39.78	22	38,80	— 0,98	109	25	12,68	25	20,00	+ 7 39	16	1,10
25	20	26	50,94	26	50,30	— 0,64	109	11	2,58	11	0,00	— 2,58	16	0,67

1832	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.		Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″		″	′	″
January 26	20	31	1,29	31	0,90	— 0,39	108	56	10,75	56	18,00	+	7,25	16	1,24
27	20	35	11,14	35	10,60	— 0,54	108	41	16,78	41	16,00	—	0,78	16	0,84
28	20	39	20,59	39	19,50	— 1,09	108	25	45,34	25	53,00	+	7,66	16	1,66
29	20	43	28,47	43	27,60	— 0,87	108	10	9,05	10	11,00	+	1,95	15	59,03
30	20	47	35,45	47	35,20	— 0,25	107	54	0,13	54	7,00	+	6,87	16	4,63
31	20	51	42,22	51	41,70	— 0,52	107	37	48,67	37	46,00	—	2,67	16	2,74
February 1	20	55	48,07	55	47,40	— 0,67	107	21	3,17	21	7,00	+	3,83	16	3,37
2	20	59	52,78	59	52,30	— 0,48	107	4	10,97	4	8,00	—	2,97	16	4,05
3	21	3	56,99	3	56,30	— 0,69	106	46	48,37	46	50,00	+	1,63	16	3,10
4	21	7	59,76	7	59,60	— 0,16	106	29	22,12	29	17,00	—	5,12	16	4,16
5	21	12	2,13	12	1,90	— 0,23	106	11	23,28	11	24,00	+	0,72	16	1,55
6	21	16	3,93	16	3,60	— 0,33	105	53	21,12	53	16,00	—	5,12	16	4,32
7	21	20	4,60	20	4,30	— 0,30	105	34	58,51	34	52,00	—	6,52	16	2,45
8	21	24	4,44	24	4,10	— 0,34	105	16	14,32	16	13,00	—	1,32	16	1,80
9	21	28	3,63	28	3,20	— 0,43	104	57	23,56	57	17,00	—	6,56	16	2,37
10	21	32	1,90	32	1,60	— 0,30	104	38	3,00	38	6,00	+	3,00	16	1,40
11	21	35	59,42	35	58,90	— 0,52	104	18	41,46	18	40,00	—	1,46	16	1,57
12	21	39	56,67	39	55,50	— 0,17	103	58	58,84	59	2,00	+	3,16	16	1,40
14	21	47	46,51	47	46,50	— 0,01	103	19	0,46	19	4,00	+	3,54	16	0,83
15	21	51	41,44	51	40,80	— 0,64	102	58	40,60	58	45,00	+	4,40	16	0,48
17	21	59	27,62	5	27,20	— 0,42	102	17	24,55	17	30,00	+	5,45		
18	22	3	19,98	3	19,40	— 0,58	101	56	29,40	56	36,00	+	6,60	16	2,02
19	22	7	11,26	7	10,80	— 0,46	.....			.....		.....		16	2,28
20	22	11	2,05	11	1,60	— 0,45	101	14	6,88	14	11,00	+	4,12	16	2,30
21	22	14	52,05	14	51,60	— 0,45	100	52	35,17	52	43,00	+	7,83	16	3,57
22	22	18	41 41	18	41,10	— 0,31	100	30	59,96	31	5,00	+	5,04	16	3,16
23	22	22	30,61	22	29,90	— 0,71	100	9	14,08	9	16,00	+	1,92	16	2,48
24	22	26	18 67	26	18,20	— 0,47	99	47	16,27	47	19,00	+	2,73	16	1,67
25	22	30	6,02	30	5,70	— 0,32	99	25	5,41	25	12,00	+	6,59	16	2,57
26	22	33	53,64	33	52,70	— 0,94	99	2	47,56	2	57,00	+	9,44	16	2,34
28	.....			.....		.....	98	17	54,28	18	3,00	+	8,72		
March 1	22	48	55,93	48	55,70	— 0,23	97	32	35,88	32	39,00	+	3,12	16	2,77
2	22	52	40,20	52	39,90	— 0,30	97	9	40,18	9	47,00	+	6,82	16	2,85
3	22	56	24,18	56	23,70	— 0,48	96	46	46,24	46	50,00	+	3,76	16	2,25
4	23	0	7,21	0	7,10	— 0,11	96	23	43,27	23	47,00	+	3,73	16	1,80
5	23	3	50,45	3	50,10	— 0,35	96	0	38,10	0	38,00	—	0,10	16	3,16
6	23	7	53,06	7	52,60	— 0,46	95	37	17,60	37	25,00	+	7,40	16	1,80
7	23	11	15,11	11	14,70	— 0,41	95	14	8,80	14	7,00	—	1,80	16	2,88
8	23	14	56,67	14	56,30	— 0,37	94	50	45,89	50	45,00	—	0,89	16	1,81
9	23	18	37.99	18	37,60	— 0,39	94	27	20,70	27	20,00	—	0,70	16	1,10
10	23	22	18,97	22	18,50	— 0,47	94	3	45,61	3	50,00	+	4,39	16	2,16
11	23	26	0 07	25	59,10	— 0,97	93	40	16,45	40	19 00	+	2,55	16	6,45
12	23	29	39,62	29	39,30	— 0,32	93	16	34,74	16	44,00	+	9,26	16	2,34
13	23	33	19,43	23	9,10	— 0,33	92	53	3,09	53	9,00	+	5,91	16	1,20
14	23	36	59,13	36	58,70	— 0,43	92	29	24,00	29	31,00	+	7,00	16	1,67
15	23	40	38,44	40	38,10	— 0,34	92	5	48,99	5	52,00	+	3,01	16	1,82
16	23	44	17 49	44	17,10	— 0,39	91	42	4,68	42	11,00	+	6,32	16	0,66
17	23	47	56,47	47	55,90	— 0,57	91	18	26,27	18	31,00	+	4,73	15	56,92
18	23	51	35,02	51	34,60	— 0,42	90	54	47,50	54	48,00	+	0,50	16	0,60
19	23	55	13.50	55	13,10	— 0,40	90	31	7,53	31	6,00	—	1,53		
20	23	58	52,11	58	51.50	— 0,61	90	7	25,25	7	25,00	—	0,25		
21	0	2	30,28	2	29,80	— 0,48	89	43	42,84	43	45,00	+	2,16	16	1,07
22	0	6	8,27	6	7,90	— 0,37	89	20	6,12	20	5,00	—	1,12	16	2,16

1832		Observed A.R.			A.R. from Nautical Almanac.		Error of Tables	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables	Mean Semi-diameter.	
		h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″	′	″
March	23	0	9	46,31	9	45,90	— 0,41	88	56	24,08	56	26,00	+ 1 92	16	2,65
	24	0	13	24,39	13	23,90	— 0,49	88	32	40,98	32	50 00	+ 9,02	16	2,20
	25	0	17	2,32	17	1,90	— 0,42	88	9	11,58	9	16,00	+ 4 42	16	0,64
	26	0	20	40,24	20	39,90	— 0,34	87	45	38,10	45	43,00	+ 4,90	16	2,52
	27	0	24	18,21	24	17,90	— 0,31	87	22	8,80	22	14 00	+ 5,20	16	0,72
	28	0	27	56,14	27	55,90	— 0,24	86	58	50,12	58	47.00	— 3,12	16	3,68
	30	0	35	12,60	35	12,20	— 0,40	86	12	1,12	12	4,00	+ 2,88		
	31	0	38	50,74	38	50,40	— 0,34	85	48	52,19	48	49 00	— 3,19	16	1,68
April	1	0	42	29,22	42	28,60	— 0,62	85	25	35,96	25	39 00	+ 3 04	16	1 72
	2	0	46	7,69	46	7,10	— 0,59	85	2	39 39	2	33,00	— 6,39	16	0,84
	3	0	49	46,12	49	45,60	— 0,52	84	39	36 02	39	32.00	— 4 02	16	1,32
	4	0	53	24,51	53	24,30	— 0,21	84	16	35,87	16	38,00	+ 2.13	16	2 34
	5	0	57	3,39	57	3,10	— 0,29	83	53	45,69	53	50,00	+ 4 31	15	59 34
	6	1	0	42,48	0	42,10	— 0,38	83	31	1,49	31	7.00	+ 5,51	16	1,60
	7	1	4	21,89	4	21,30	— 0,59	83	8	23,57	8	32,00	+ 8 43	16	1,46
	8	.....			.....		.....	82	45	58 60	46	3 00	+ 4,40	16	2,08
	9	.....			.....		.....	82	23	40,33	23	43,00	+ 2.67	15	58,77
	10	.....			.....		.....	82	1	32,69	1	31,00	— 1,69	16	2,52
	11	.....			.....		.....	81	39	17,79	39	26,00	+ 8,21		
	12	.....			.....		.....	81	17	24,95	17	28,00	+ 3,05	15	59 72
	13														
	14	.....			.....		.....	80	33	59,58	34	3,00	+ 3,42	16	0,28
	15	1	33	43,40	33	43,30	— 0,10	80	12	31,85	12	33,00	+ 1,15	16	1,02
	16	1	37	25,75	37	24,90	— 0,85	79	51	10,54	51	13,00	+ 2.46	15	59,60
	17	.....			.....		.....	79	30	4,38	30	3,00	— 1,38	16	1,18
	18	.....			.....		.....	79	8	58,31	9	3,00	+ 4,69	16	3,60
	19	.....			.....		.....	.....			.....		.....	15	59,92
	20	.....			.....		.....	78	27	33,56	27	37,00	+ 3 44	16	1,98
	21	.....			.....		.....	78	7	7,74	7	11,00	+ 3,26	16	1 07
	22	.....			.....		.....	77	46	50,81	46	56 00	+ 5,19	15	59,58
	23	.....			.....		.....	77	26	51,02	26	52.00	+ 0,98	16	1,67
	24	.....			.....		.....	77	6	59,87	7	1,00	+ 1,13	16	1,42
	25	.....			.....		.....	76	47	21,01	47	24,00	+ 2,99	16	0,02
	26	.....			.....		.....	76	27	57,54	27	58,00	+ 0,46	16	3,71
	27	.....			.....		.....	76	8	44,90	8	45 00	+ 0,10		
	28	.....			.....		.....	75	49	48,97	49	47,00	— 1,97	16	4,10
	29	.....			.....		.....	75	31	1,44	34	2.00	+ 0,56	16	2,72
	30	.....			.....		.....	75	12	32,59	12	31,00	— 1,59	16	1,63
May	1	.....			.....		.....	74	54	20,57	54	16.00	— 4,57	16	5,17
	2	.....			.....		.....	74	36	13,77	36	15,00	+ 1,23	16	4 90
	3	.....			.....		.....	74	18	24,25	18	28.00	+ 3.75	16	4,45
	4	.....			.....		.....	74	0	54,08	0	59,00	+ 4 92	16	3,76
	5	.....			.....		.....	73	43	37,60	43	46,00	+ 8,40	16	3,54
	6	.....			.....		.....	73	26	40,88	26	47,00	+ 6,12	16	1,44
	7	.....			.....		.....	73	9	59,74	10	5,00	+ 5,26	15	58,54
	8	.....			.....		.....	72	53	34,61	53	40,00	+ 5.39		
	9	.....			.....		.....	72	37	29,06	37	34,00	+ 4,94	16	0,04
	11	.....			.....		.....	.....			.....		.....	16	2,54
	12	.....			.....		.....	71	50	52.53	50	56,00	+ 3 47	16	1,20
	13	3	20	10,46	20	10,20	— 0,26	71	35	58,28	36	0,00	+ 1,72	16	0,60
	14	.....			.....		.....	.....			.....		.....	16	1,26
	15	.....			.....		.....	71	7	2,00	7	5 00	+ 3,00	16	7,02
	16	.....			.....		.....	70	53	5,20	53	4,00	— 1,20	16	3,36
	17	.....			.....		.....	70	39	21,69	39	24,00	+ 2,31	15	57,90

1832		Observed A.R.			A.R. from Nautical Almanac			Error of Tables.		Observed N.P.D.			N.P.D. from Nautical Almanac			Error of Tables.		Mean Semi-diameter.	
		h.	m.	s.	m.	s.			s.	°	′	″	′	″			″	′	″
May	18	.....			.....			.....		70	26	0,85	26	3.00	+		2,15	16	6 48
	19	.....			.....			.....		70	13	4,39	13	2,00	—		2,39	15	57,80
	20	.....			.....			.....		.....			.....				.....	16	2,00
	21	3	51	53 69	51	53,10	—	0,59		.....			.....				.....	16	2 45
	22	3	55	54 12	55	53 50	—	0,62		69	36	4,10	36	1,00	—		3,10	16	2 33
	23	3	59	55,17	59	54,50	—	0.67		69	21	24,51	24	23,00	—		1.51	16	1,96
	24	4	3	56,77	3	55,90	—	0,87		69	12	58,73	13	5,00	+		6,27		
	25	.....			.....			.....		69	2	7,24	2	8,00	+		0,76	16	1,26
	26	.....			.....			.....		68	51	22,12	51	32.00	+		9,88	16	6,14
	27	4	16	4,58	16	3 70	—	0,88		68	41	19,69	41	19,00	—		0,69	16	0,14
	29	4	24	11,64	24	11 40	—	0,24											
	30	4	28	16,87	28	15,90	—	0,97		68	12	49,40	12	52.00	+		2,60	16	1,72
	31	4	32	21,49	32	20,90	—	0,59		68	4	1,99	4	7,00	+		5 01	16	2,03
June	1	4	36	27,01	36	26,20	—	0,81		67	55	44,58	55	47,00	+		2,42	16	1,42
	2	4	40	32,24	40	31,90	—	0,34		67	47	43 95	47	47 00	+		3 05	16	2,96
	3	4	44	38,78	44	38,00	—	0,78		67	40	13,26	40	14 00	+		0,74	16	2,52
	4	4	48	45,34	48	44,50	—	0.84		67	33	0,66	33	5 00	+		4 34	15	59 30
	5	4	52	51.52	42	51,40	—	0,12		67	26	14,34	26	16,00	+		1.66	15	59,04
	6	4	56	58,89	56	58 40	—	0,49		67	19	51,10	19	51,00	—		0,10	16	3,98
	7	5	1	6,37	1	5,80	—	0,57		67	13	48,35	13	51,00	+		2,65		
	8	5	5	13,86	5	13,40	—	0,46		67	8	8,77	8	15,00	+		6,23		
	9	5	9	21,89	9	21,40	—	0,49		67	3	4,85	3	3 00	—		1,85	16	2,30
	10	5	13	30,16	13	29,60	—	0,56		66	58	8,42	58	15 00	+		6,58	16	1 33
	11	5	17	38,91	17	38,00	—	0,91		66	53	50,47	53	51,00	+		0.53	16	2,05
	12	5	21	47,19	21	46,60	—	0,59		66	49	48,77	49	52,00	+		3.23	16	3,05
	13	5	25	56,03	25	55,20	—	0,83		66	46	15,80	46	18 00	+		2,20	16	2,30
	14	5	30	4,78	30	4,20	—	0,58		66	43	5,01	43	7,00	+		1,99	15	59,60
	15	5	34	14,08	34	13,40	—	0,68		66	40	19,76	40	20,00	+		0,24	16	0,46
	16	5	38	23,34	38	22,50	—	0,84		66	37	56,16	38	1,00	+		4,84	16	1,72
	17	.....			.....			.....		66	36	1,30	36	4,00	+		2 70	15	59,93
	18	5	46	41,46	46	41,20	—	0,26		66	34	27,43	34	33,00	+		5,57	16	1,61
	22	.....			.....			.....		66	32	29,86	32	32,00	+		2,14	16	2,00
	23	.....			.....			.....		66	33	2,38	33	4,00	+		1,62		
	24	.....			.....			.....		66	34	6,15	34	2 00	—		4,15	16	1,72
	26	.....			.....			.....		66	37	12,21	37	10,00	—		2 21	15	58,30
	27	.....			.....			.....		66	39	18,10	39	23,00	+		4 90	16	1,24
	28	.....			.....			.....		66	41	57,75	41	57,00	—		0.75		
	30	.....			.....			.....		66	48	19,61	48	23,00	+		3.39	16	2.10
July	2	.....			.....			.....		66	56	27,42	56	25,00	—		2,42	16	1.68
	3	.....			.....			.....		67	1	2,13	1	3,00	+		0.87	16	0,10
	4	.....			.....			.....		67	6	7,63	6	5,00	—		2.63	16	3 56
	5	.....			.....			.....		67	11	27,68	11	30.00	+		2 32	16	2 11
	6	.....			.....			.....		67	17	15,99	17	20,00	+		4.01	15	57.86
	7	.....			.....			.....		67	23	27,86	23	32,00	+		4,14	15	54 90
	16	.....			.....			.....		67	36	44,73	38	43,00	—		1,73	15	58 07
	20	.....			.....			.....		69	18	48,33	18	53,00	+		4,67	15	58,04
	24	8	14	5,86	14	5,10	—	0 76		69	6	39,55	6	35,00	—		4 55		
	25	8	18	3,34	18	2,80	—	0,54		70	19	27,21	19	21,00	—		6 21	16	0,60
	26	8	22	0,19	21	59,80	—	0,39		70	32	35,49	32	28.00	—		7 49	16	1,02
	28	8	29	52,89	29	52 50	—	0,39		70	59	44,48	59	37,00	—		7,48	16	1.86
	30	.....			.....			.....		71	28	3,32	28	3,00	—		0 32	16	3 48
	31	.....			.....			.....		71	42	44,17	42	42,00	—		2 17	16	0.58
August	1	.....			.....			.....		71	57	43,37	57	42,00	—		1,37	16	2,13

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.		Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	*'*	*"*	*'*	*"*		*"*	*'*	*"*
August 2	.....			.....		.....	72	12	59,72	12	57,00	—	2,72		
3	.....			.....		.....	72	28	35,78	28	29 00	—	6,78	16	2,34
5	.....			.....		.....	73	0	30,57	0	28,00	—	2,57	16	0,18
6	.....			.....		.....	73	16	49,42	16	51.00	+	1,58	16	3,90
7	.....			.....		.....	73	33	29,44	33	29,00	—	0,44	16	2,42
8	.....			.....		.....	73	50	25,78	50	24,00	—	1,78	16	2,65
11	.....			.....		.....	74	42	48,86	42	42,00	—	6,86	15	58,94
12	.....			.....		.....	75	0	47,12	0	38,00	—	9,12	16	0,58
13	9	31	23,86	31	23,50	— 0,36	75	18	57,04	18	48,00	—	9,04	16	2,92
14	9	35	9,95	35	9,10	— 0,85	75	37	16,45	37	13,00	—	3,45	15	58,14
17	9	46	24,37	46	23,40	— 0,97	76	33	50,58	33	47,00	—	3,58	16	0,48
18	9	50	7,78	50	7,00	— 0,78	76	53	7.52	53	4 00	—	3,52	16	0,20
19	9	53	50.86	53	50,20	— 0,66	77	12	34,40	12	34,00	—	0,40		
20	9	57	33,69	57	32,90	— 0,79	77	32	15,95	32	17,00	+	1,05	16	1,50
21	10	1	15,59	1	15,30	— 0,29	77	52	9,12	52	11,00	+	1,88	16	2,80
22	10	4	57,57	4	57,10	— 0,47	78	12	17,81	12	18,00	+	0,19	16	2,01
23	10	8	38,75	8	38,50	— 0,25	78	32	34,72	32	35,00	+	0.28	15	59,88
25	10	16	0,87	16	0,20	— 0,67	79	13	50,09	13	43,00	—	7,09		
27	10	23	20,62	23	20,00	— 0,62	79	55	35,70	55	31,00	—	4,70	16	3,90
28	10	27	0,20	26	59,30	— 0,90	80	16	40,24	16	40 00	—	0,24	16	0,60
29	10	30	39,24	30	38,40	— 0.84	80	38	4,17	37	59,00	—	5,17		
30	10	34	17,75	34	17,00	— 0,75	80	59	26,61	59	26,00	—	0,61		
31	10	37	56,23	37	55,30	— 0,93	81	21	0,28	21	1,00	+	0,72	16	1,68
Sept. 2	.....			.....		.....	82	4	34,16	4	38,00	+	3,84	15	59,20
4	10	52	25,74	52	25,30	— 0,44	82	48	42,95	48	43,00	+	0,05	16	0 82
6	10	59	39,23	59	38,80	— 0,43	83	33	16,04	33	17,00	+	0,96	15	59,30
7	11	3	15,93	3	15,20	— 0,73	83	55	43,26	55	44,00	+	0,74	16	2,54
9	11	10	27,91	10	27,30	— 0,61	84	41	2 89	40	54,00	—	8,89	16	0,12
10	11	14	4,16	14	3,10	— 1,06	85	3	47,45	3	38,00	—	9,45	16	3,85
14	.....			.....		.....	86	35	24,45	35	20,00	—	4,45		
15	11	32	1,05	32	0,70	— 0,35	86	58	30,78	58	26,00	—	4,78	16	4,16
16	11	35	36,33	35	36,10	— 0,23	87	21	38,43	21	35,00	—	3,43	16	0,18
20	11	49	58,33	49	57,90	— 0,43	88	54	42,27	54	42,00	—	0,27	16	0,22
21	11	53	34,02	53	33,50	— 0,52	89	18	7,92	18	5,00	—	2,92	16	0,95
22	11	57	12,62	57	9,10										
23	12	0	45,77	0	45 00	— 0,77	90	5	1,09	4	53,00	—	8,09	15	59,74
24	12	4	21,46	4	21,00	— 0,46	90	28	22,24	28	19,00	—	3,24	16	1,70
25	12	7	57,55	7	57,20	— 0,35	90	51	48,97	51	45,00	—	3,97	16	2,28
26	12	11	33,26	11	33,30	+ 0.04	91	15	13,55	15	11,00	—	2,55	16	3,98
27	12	15	10,66	15	9,80	— 0,86	91	38	35,55	38	36,00	+	0,45	16	1,61
28	12	18	46,92	18	46,40	— 0,52	92	2	2,24	2	1,00	—	1,24		
30	12	26	0,94	26	0 20	— 0,74	92	48	47,45	48	48,00	+	0 55	16	2,07
October 1	12	29	37,70	29	37,60	— 0,10	93	12	2,44	12	8,00	+	5,56	15	59.43
2	12	33	16,41	33	15,20	— 1,21	93	35	28,25	35	27,00	—	1,25	16	4,17
4	12	40	32,07	40	31,50	— 0,57	94	21	58,44	21	55,00	—	3,44		
5	.....			.....		.....	94	45	10,97	45	5,00	—	5,97	16	1,35
6	.....			.....		.....	95	8	13,54	8	10.00	—	3,54	16	1.72
7	12	51	28,31	51	28,10	— 0,21	95	31	16,87	31	12,00	—	4,87	16	0,84
8	12	55	9,28	55	7,90	— 1,38	95	54	12,56	54	10,00	—	2,56	16	1,55
9	12	58	48,97	58	48,00	— 0,97	96	17	8,14	17	3,00	—	5.14	16	3,85
11	13	6	10,42	6	9,50	— 0,92	97	2	36,15	2	35,00	—	1,15	16	3,10
12	13	9	52,25	9	51,30	— 0.95	97	25	17,91	25	12,00	—	5,91	16	4,56
13	13	13	34,20	13	33,20	— 1,00	97	47	42,99	47	43,00	+	0,01	16	1,51

1832	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″	′	″
October 14	13	17	16,69	17	15,80	— 0,89	98	10	10,93	10	8,00	— 2,93		
15	13	20	59,66	20	59,00	— 0,66	98	32	28,43	32	26,00	— 2,43	16	0,72
19	.....			.....		.....	100	0	27,11	0	23,00	— 4,11	16.	3,72
20	13	39	44,51	39	43,70	— 0,81								
21	13	43	31,90	43	30,60	— 1,30	100	43	39,23	43	32,00	— 7,23	15	59,82
22	13	47	19,30	47	18,20	— 1,10	101	4	51,71	4	52,00	+ 0,29	16	1,20
23	13	51	7,33	51	6,40	— 0,93	101	25	59,41	26	2,00	+ 2,59	16	2,96
24	13	54	56,51	54	55,60	— 0,91	101	47	2,79	47	2,00	— 0,79	16	1,90
25	13	58	45,82	58	45,20	— 0,62	102	7	52,25	7	51,00	— 1,25	16	2,83
26	14	2	36,37	2	35,50	— 0,87	102	28	29,93	28	28,00	— 1,93	16	3,22
27	14	6	27,71	6	26,70	— 1,01	102	48	55,17	48	54,00	— 1,17	16	2,58
28	14	10	19,51	10	18,60	— 0,91	103	9	6,56	9	8,00	+ 1,44	16	1,10
29	14	14	12,06	14	11,40	— 0,66	103	29	9,27	29	10,00	+ 0,73	16	2,36
30	14	18	5,38	18	4,50	— 0,88	103	49	0,54	48	59,00	— 1,54	16	1,04
31	14	21	59,27	21	58,70	— 0,57	104	8	30,38	8	34,00	+ 3,62	16	2,56
Nov. 1	14	25	54,19	25	53,50	— 0,69	104	28	1,57	27	56,00	— 5,57	16	0,35
2	14	29	50,66	29	49,20	— 1 46	104	47	5,63	47	3,00	— 2,63	16	1,42
3	14	33	46,46	33	45,70	— 0,76	105	6	1,34	5	56,00	— 5,34	16	1,44
4	.....			.....		.....	105	24	40,10	24	35,00	— 5,10	16	2,50
5	14	41	42,04	41	40,90	— 1,14	105	42	59 08	42	58,00	— 1,08	16	1,52
6	.....			.....		.....	106	1	8,14	1	3 00	— 5 14	15	57,63
9	.....			.....		.....	107	53	51,24	53	49,00	— 2,24	16	0,54
10	15	1	44,68	1	43,70	— 0,98	107	10	51,75	10	50,00	— 1,75		
12	15	9	51,60	9	50,70	— 0,90	107	43	58,85	43	58,00	— 0,85	16	1,96
14	.....			.....		.....	.....			.....		.....	16	3,82
15	15	22	8,81	22	8,00	— 0,81	.....			.....		.....	16	0,70
16	15	26	16,15	26	15 40	— 0,75	108	46	31,32	46	29,00	— 2,32		
17	15	30	24,83	30	23 70	— 1,13	109	1	21,52	1	19,00	— 2,52	15	59,30
18	15	34	34,01	34	33,00	— 1,01	109	15	49,94	15	47,00	— 2,94	15	59,00
19	15	38	43,98	38	43,10	— 0,88	109	29	56,79	29	55,00	— 1,79	16	1,34
21	15	47	6,94	47	5,40	— 1,54	109	57	12,86	57	8,00	— 4,86	16	1,77
22	15	51	19,09	51	18,10	— 0,99	110	10	16,30	10	12,00	— 4,30	15	59,66
23	15	55	32,45	55	31,40	— 1,05	110	22	53,92	22	53,00	— 0,92	15	59,30
24	.....			.....		.....	110	35	16,84	35	11,00	— 5,84	16	0,57
25	16	4	1,14	4	0,40	— 0,74	110	47	4,37	47	7,00	+ 2,63	16	0,40
26	16	8	16,62	8	15,80	— 0,82	110	58	39 92	58	39,00	— 0,92	16	0,92
27	16	12	33,13	12	32,20	— 0.93	111	9	50,58	9	48,00	— 2,58	16	1,50
30	16	25	26,01	25	25,20	— 0,81	111	40	51,80	40	48,00	— 3,80	16	1,47
Dec. 1	16	29	44,55	29	44,40	— 0,15	111	50	21,68	50	20,00	— 1,68	15	59,62
4	16	42	45,73	42	44.80	— 0,93	.....			.....		.....	16	3,16
5	16	47	7,07	47	6,10	— 0,97								
6	.....			.....		.....	112	31	23,66	31	28,00	+ 4,34		
7	16	55	51,35	55	50,40	— 0,95	112	38	26,97	38	24,00	— 2,97	16	0 87
8	17	0	14,32	0	13,00	— 1,32	112	44	48,70	44	53,00	+ 4,30	15	59,22
9	.....			.....		.....	.....			.....		.....	16	1,60
10	.....			.....		.....	.....			.....		.....	16	1,04
11	.....			.....		.....	.....			.....		.....	16	0,90
12	17	17	50,02	17	49,20	— 0,82								
13	.....			.....		.....	113	10	29,95	10	32,00	+ 2,05	16	1,10
14	17	26	40,45	26	39,40	— 1,05	.....			.....		.....	15	59,25
15	17	31	6,17	31	5 00	— 1,17	.....			.....		.....	16	1,98
16	17	35	32,15	35	31,00	— 1,15	113	20	18,29	20	25,00	+ 6 71	16	1,23
17	17	39	57,95	39	57,10	— 0,85	113	22	43,35	22	46,00	+ 2,65	16	5,34
18	17	44	24,04	44	23,50	— 0,54	113	24	34,88	24	39,00	+ 4,12	16	0,87

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″	′	″
Dec. 19	17	48	51,02	48	50,00	— 1,02	113	26	5,56	26	4,00	— 1,56	15	59,12
20	.....			.....		.....	.....			.....		.....	16	1,37
21	17	57	44,54	57	43,40	— 1,14	113	27	28,31	27	31,00	+ 2,69	16	1,40
22	.....			.....		.....	113	27	30,39	27	31,00	+ 0,61	15	59,72
23	.....			.....		.....	113	26	59,08	27	3,00	+ 3,92	15	59,62
24	.....			.....		.....	113	26	8,63	26	6,00	+ 2,63	15	59,94
25	.....			.....		.....	113	24	46,15	24	42,00	+ 4,15	16	0,72
26	18	19	57,80	19	57,00	— 0,80	.....			.....		.....	16	0,23
27	.....			.....		.....	.....			.....		.....	16	0,72
28	18	28	50,51	28	49,60	— 0,91	.....			.....		.....	15	59,95
29	.....			.....		.....	113	14	18,81	14	21,00	+ 2,19	15	59,46
1833														
January 2	18	50	58,28	50	57,50	— 0,78	112	56	27,69	56	36,00	+ 8,31	16	2,60
3	18	55	22,41	55	21,90	— 0,51	112	50	57,16	51	0,00	+ 2,84	16	0,28
4	18	59	46,38	59	45,90	— 0,48	112	44	47,52	44	57,00	+ 9,48	16	0,20
5	19	4	9,89	4	9,70	— 0,19	112	38	29 28	38	27,00	— 2,28	16	1,88
6	19	8	33,05	8	32,90	— 0,15	112	31	24,20	31	30,00	+ 5,80	16	4,65
7	19	12	55,94	12	55,70	— 0,24	112	24	7,26	24	7,00	— 0,26	16	2,72
8	19	17	18,38	17	17,90	— 0,48	112	16	9,68	16	16,00	+ 6,32	15	59 34
9	19	18	39,77	21	39,60	— 0,17	112	7	54,75	8	0,00	+ 5,25	16	1,24
10	19	26	1,17	26	0,70	— 0,47	111	59	14,10	59	17,00	+ 2,90	16	0,44
11	.....			.....		.....	111	50	5,69	50	9,00	+ 3,31	16	1,73
12	19	34	41,72	34	41,40	— 0,32	111	40	32,15	40	36,00	+ 3,85	16	2,70
14	19	43	20,34	43	19,70	— 0,64	111	20	11,59	20	13,00	+ 1,41	16	2,13
15	.....			.....		.....	111	9	23,54	9	24,00	+ 0 46	16	0,50
16	19	51	55,79	51	55,50	— 0,29	110	58	7,80	58	11,00	+ 3,20	16	2,80
17	.....			.....		.....	110	46	34,06	46	34,00	— 0,06	16	2,40
18	.....			.....		.....	110	34	31,29	34	33,00	+ 1,71	16	1,85
19	.....			.....		.....	110	22	8,15	22	9,00	+ 0,85	16	2,40
20	20	8	59,05	8	58,60	— 0,45	110	9	28,74	9	22,00	— 6,74	15	59,73
21	20	13	1 ,76	13	12,50	— 0 26	109	56	14,36	56	13,00	— 1,36	15	59 76
22	20	17	26 00	17	25,70	— 0,30	109	42	43,05	42	41,00	— 2,05	16	1,20
23	20	21	38,37	21	38 20	— 0,17	109	28	44 34	28	47,00	+ 2,66	16	0,58
24	20	25	49,63	25	49,80	+ 0.17	109	14	32 30	14	32,00	— 0,30		
25	20	30	0,85	30	0,50	— 0,35	108	59	52,56	59	54,00	+ 1,44		
26	20	34	10,76	34	10,50	— 0,26	108	44	59 02	44	58,00	— 1,02	16	2,42
27	.....			.....		.....	108	29	35,72	29	39,00	+ 3,28	16	3,10
28	20	42	28,16	42	27,70	— 0.46	.....			.....		.....	16	1,75
29	20	46	35 63	46	35,30	— 0,33	107	57	59 31	58	4,00	+ 4,69	16	3,48
30	20	50	42,06	50	41,90	— 0,16	107	41	45,17	41	49,00	+ 3,83	15	59,90
31	.....			.....		.....	107	25	7,39	25	13 00	+ 5,61	16	0,10
February 1	20	58	52,88	58	52,60	— 0,28	107	8	21,25	8	20,00	— 1,25	16	3,13
2	21	2	56,99	2	56,60	— 0,39	106	51	5,07	51	8,00	+ 2,93	16	3,47
3	.....			.....		.....	106	33	37,99	33	38,00	+ 0,01	15	59,25
4	21	11	2,83	11	2,20	— 0,63	.....			.....		.....	16	0,58
5	21	15	4,13	15	3,80	— 0,33	105	57	46 22	57	49,00	+ 2,78	16	2,36
6	21	19	4,94	19	4,70	— 0,24	105	39	28,77	39	29 00	+ 0,23	16	2,07
7	21	23	4,89	23	4.70	— 0,19	105	21	0,81	20	52,00	— 8,81	16	2,23
8	21	27	4,06	27	3,80	— 0,26	105	2	4,29	2	2,00	— 2,29	16	1,72
9	21	31	2,59	31	2,20	— 0,39	104	42	56,26	42	54,00	— 2 26	15	57,88
10	21	34	59,51	34	59,80	+ 0,29	104	23	34,23	23	35,00	+ 0,77	15	58,49
11	.....			.....		.....	104	3	57,45	3	58,00	+ 0,55	16	0,83

1833	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″	′	″
February 12	21	42	53,15	42	52,70	— 0,45	103	44	4,78	44	10 00	+ 5,22	16	0,60
13	21	46	48.61	46	48.10	— 0,51	103	24	1,74	24	6,00	+ 4,26		
14	21	50	43,04	50	42,90	— 0,14	.....			.....		.....	16	1,65
15	21	54	36 82	54	36,80	— 0,02	102	43	13,18	43	20,00	+ 6,82	15	58,72
16	21	58	30.01	58	29,90	— 0,11	102	22	39,38	22	39,00	— 0,38	16	0,64
17	22	2	22,58	2	22,30	— 0 28	102	1	44,63	1	46,00	+ 1,37	16	0,52
18	22	6	14,37	6	14,00	— 0,37	101	40	38,74	40	41,00	+ 2,26	16	2 54
19	22	10	5,21	10	5,00	— 0,21	101	19	23,09	19	26,00	+ 2 91	15	59,37
20	.....			.....		.....	100	57	55,44	57	59,00	+ 3,56	16	1,62
21	22	17	45,75	17	45,20	— 0,55	100	36	23,80	36	22,00	— 1,80	16	1,84
22	.....			.....		.....	100	14	36,41	14	37,00	+ 0,59	16	0,43
23	.....			.....		.....	99	52	42 90	52	40,00	— 2,90	16	1,28
24	.....			.....		.....	99	30	37,73	30	36,00	— 1,73	16	2,80
25	22	32	58,11	32	57,70	— 0,41	99	8	20,59	8	24,00	+ 3,41	15	58,95
26	22	36	44,77	36	44,40	— 0,37	98	45	58,69	46	2,00	+ 3,31	16	2,16
27	22	40	30,64	40	30,30	— 0,34	98	23	31,78	23	33,00	+ 1,22	16	0,20
28	22	44	16,18	44	15,70	— 0,48	98	0	52 63	0	57,00	+ 4,37	16	0,82
March 1	22	48	1,02	48	0,70	— 0,32	97	38	12,79	38	14,00	+ 1,21	16	0,98
2	22	51	45,46	51	45.00	— 0,46	97	15	21,56	15	26,00	+ 4,44	15	59,90
3	22	55	29,32	55	28,80	— 0,52	96	52	30,74	52	30,00	— 0,74	16	1,06
4	22	59	12,55	59	12,20	— 0,35	96	29	27,33	29	30,00	+ 2,67	16	2,24
5	23	2	55,14	2	55,10	— 0,04	96	6	22,57	6	23,00	+ 0,43	16	0,84
6	23	6	37,87	6	37,50	— 0,37	95	43	9,59	43	12,00	+ 2,41	16	1,18
7	23	10	19,71	10	19,40	— 0,31	95	19	58 31	19	56,00	— 2,31	16	0.90
8	.....			.....		.....	94	56	37,25	56	35,00	— 2,25	15	59,96
9	23	17	42,63	17	42,20	— 0,43	94	33	12,83	33	11,00	— 1,83	16	1,02
10	23	21	23.59	21	23,10	— 0,49	94	9	44,96	9	44,00	— 0,96	16	0,70
11	23	25	4,17	25	3,70	— 0,47	93	46	6,52	46	13,00	+ 6,48	16	1,94
12	23	28	44,54	28	44,10	— 0,44	.....			.....		.....	16	0,06
13	23	33	24,34	32	24,10	— 0,24	92	58	59,66	59	4,00	+ 4,34	15	59 82
14	.....			.....		.....	92	35	24,61	35	26,00	+ 1,39	16	0,95
15	23	39	43,47	39	43,30	— 0,17	92	11	45,46	11	47.00	+ 1.54	16	1,30
16	.....			.....		.....	91	48	2,99	48	6,00	+ 3,01		
18	.....			.....		.....	91	0	38,80	0	41,00	+ 2,20	16	2,05
19	23	54	19,30	54	19,20	— 0,10	90	36	56,16	36	58.00	+ 1,84	16	0,15
20	.....			.....		.....	90	13	17.73	13	16,00	— 1,73	16	0,90
21	0	1	36.46	1	36,10	— 0,36	89	49	34,57	49	34 00	— 0,57	16	1,62
22	0	5	14,68	5	14,40	— 0,28	89	25	54,83	25	53,00	— 1,83	16	0,23
23	0	8	52,94	8	52,60	— 0,34	89	2	12,24	2	13,00	+ 0,76	15	59,08
24	.....			.....		.....	88	38	33,67	38	35,00	+ 1,33	16	2.40
25	0	16	9,05	16	8,80	— 0 25	88	14	57,74	15	0,00	+ 2,26	15	59,95
26	0	19	46,96	19	46,90	— 0,06	87	51	22,43	51	27,00	+ 4.57	16	2,25
27	0	23	25,21	23	24,90	— 0,31	87	27	56,06	27	56,00	— 0,06	16	0.04
28	.....			.....		.....	87	4	29 06	4	29 00	— 0 06	16	0.10
29	0	30	41,03	30	40,80	— 0,23	86	41	6,18	41	5,00	— 1,18	16	0,00
30	0	34	18,96	34	18,80	— 0,16	86	17	41,50	17	47,00	+ 5,50	15	59,83
31	.....			.....		.....	85	54	34,57	54	30,00	— 4,57	15	59,95
April 1	0	41	34,99	41	35,00	+ 0,01	85	31	19,65	31	19 00	— 0,65	16	0 64
2	0	45	13.33	45	13,20	— 0,13	85	8	19 02	8	14,00	— 5 02	16	0,50
3	0	48	51,63	48	51,50	— 0,13	84	45	17,78	45	13,00	— 4,78	16	1,10
4	0	52	30,08	52	30,00	— 0,08	84	22	15,83	22	17,00	+ 1,17	16	2,10
5	0	56	8,63	56	8,60	— 0,03	83	59	24 94	59	29,00	+ 4.06	15	59,62
6	0	59	47,96	59	47,40	— 0,56	83	36	42.09	36	46 00	+ 3 91	16	1,26
7	1	3	26,81	3	26,50	— 0,31	83	14	5,33	14	9,00	+ 3,67	16	2,22

1833		Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.		Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables		Mean Semi-diameter.	
		h.	*m.*	*s.*	*m.*	*s.*		*s.*	°	′	″	′	″		″	′	″
April	8	1	7	6,06	7	5,70	—	0,36	82	51	36,47	51	40,00	+	3,53	15	59,86
	9	1	10	45,34	10	45,10	—	0,24	82	29	14,25	29	18,00	+	3,75	16	2,18
	10	.....			.....		.....		82	7	3,69	7	2,00	—	1,69	16	0,08
	11	.....			.....		.....		81	44	52,48	44	55,00	+	2,52		
	14	1	29	7,01	29	6,90	—	0,11	80	39	28,60	39	24,00	—	4,60	16	1,77
	15	.....			.....		.....		80	17	54,96	17	51,00	—	3,96	16	0,26
	16	.....			.....		.....		79	56	34,00	56	28,00	—	6,00	15	59,64
	17	1	40	12,38	40	12,00	—	0,38	79	35	18,23	35	15,00	—	3,23	16	0,50
	18	.....			.....		.....		79	14	16,53	14	12,00	—	4,53	16	1,00
	19	1	47	37,39	47	37,40	+	0,01	78	53	18,19	53	19,00	+	0,81	16	1,84
	20	1	51	20,78	51	20,60	—	0,18	78	32	37,70	32	39,00	+	1,30	15	59,64
	21	.....			.....		.....		78	12	4,04	12	8,00	+	3,96	16	0,64
	22	1	58	48,71	58	48,50	—	0,21	77	51	45,72	51	50,00	+	4,28	16	0,10
	23	2	2	33,45	2	33,10	—	0,35	77	31	36,53	31	43,00	+	6,47	16	0,73
	24	.....			.....		.....		77	11	45,92	11	49,00	+	3,08	16	4,57
	25	2	10	3,98	10	3,60	—	0,38	76	52	6,16	52	8,00	+	1,84	16	0,00
	27	2	17	36,10	17	36,00	—	0,10	76	13	24,02	13	23,00	—	1,02	16	1,26
	28	2	21	22,97	21	22,90	—	0,07	75	54	19,38	54	22,00	+	2,62	16	0,68
	29	.....			.....		.....		75	35	38,18	35	34,00	—	4,18	16	0,90
	30	2	28	57,94	28	58,10	+	0,16	75	16	59,46	17	0,00	+	0,54	16	0,84
May	1	2	32	46,59	32	46,40	—	0,19	74	58	44,76	58	43,00	—	1,76	15	57,78
	2	2	36	35,61	36	35,50	—	0,11	74	40	41,73	40	39,00	—	2,73	16	4,40
	3	.....			.....		.....		74	22	54,32	22	50,00	—	4,32	15	58,97
	4	2	44	15,21	44	15,10	—	0,11	.....			.....		.....		16	0,04
	5	2	48	5,83	48	5,70	—	0,13	.....			.....		.....		16	0,75
	6	.....			.....		.....		73	30	56,88	30	57,00	+	0,12	15	59,73
	7	.....			.....		.....		73	14	7,76	14	13,00	+	5,24	15	59,70
	8	.....			.....		.....		72	57	45,12	57	43,00	—	2,12	16	0,28
	9	3	3	33,74	3	33,90	+	0,16	72	41	30,91	41	32,00	+	1,09	15	59,83
	10	3	7	27,45	7	27,50	+	0,05	72	25	35,39	25	38,00	+	2,61	16	1,43
	11	3	11	21,58	11	21,50	—	0,08	72	10	5,59	9	59,00	—	6,59	16	4,13
	12	3	16	16,76	15	16,20	—	0,56	.....			.....		.....		16	0,55
	13	3	19	11,48	19	11,30	—	0,18	71	39	36,47	39	39,00	+	2,53	15	59,53
	14	.....			.....		.....		71	24	54,86	24	58,00	+	3,14	16	0,67
	16	.....			.....		.....		70	56	27,10	56	28,00	+	0,90	16	1,17
	17	.....			.....		.....		70	42	46,88	42	43,00	—	3,88	16	3,80
	18	.....			.....		.....		70	29	14,58	29	16,00	+	1,42	16	2,94
	19	.....			.....		.....		70	16	13,80	16	10,00	—	3,80	16	0,40
	22	.....			.....		.....		69	38	51,66	38	52,00	+	0,34	16	0,86
	23	3	58	56,24	58	55,90	—	0,34	69	27	9,71	27	6,00	—	3,71	16	1,48
	24	.....			.....		.....		69	15	43,96	15	45,00	+	1,04	16	0,84
	25	.....			.....		.....		69	4	38,37	4	42,00	+	3,63		
	26	.....			.....		.....		68	53	57,33	54	2,00	+	4,67	16	1,22
	28	.....			.....		.....		68	33	45,08	33	47,00	+	1,92	16	1,08
	29	.....			.....		.....		68	24	4,00	24	13,00	+	9,00		
	30	4	27	15,94	27	15,90	—	0,04	68	14	56,42	15	1,00	+	4,58	16	2,23
	31	4	31	21,02	31	20,60	—	0,42	68	6	9 50	6	12,00	+	2,50	16	3,11
June	1	4	35	26,35	35	25,80	—	0,55	67	57	43,95	57	46,00	+	2,05	16	1,24
	2	4	39	31,27	39	31,20	—	0,07	67	49	39 37	49	43,00	+	3,63	16	4,14
	3	4	43	37,14	43	37,10	—	0,04	67	41	58,90	42	3,00	+	4,10	16	2,53
	4	.....			.....		.....		67	34	46,36	34	46,00	—	0,36	16	2,52
	5	.....			.....		.....		67	27	49,58	27	52,00	+	2,42	16	2,58
	6	.....			.....		.....		67	21	22,53	21	23,00	+	0,47	16	1,64
	7	.....			.....		.....		67	15	12,89	15	16,00	+	3,11	16	2,40

1833	Observed A.R.			A.R. from Nautical Alm.anac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″	′	″
June 8	.....			.....		.....	67	9	35,10	9	33,00	— 2,10	16	1,92
9	5	8	19,65	8	19,60	— 0,05	67	4	14,97	4	16,00	+ 1,03	16	2,90
11	5	16	36,61	16	36,30	— 0,31	66	54	51,15	54	52,00	+ 0,85		
12	5	20	45,15	20	44,90	— 0,25	66	50	48,41	50	45,00	— 3,41	16	3,18
13	5	24	54,22	24	53,80	— 0,42	66	47	6,46	47	6,00	— 0,64	16	1,94
14	5	29	3,14	29	2,90	— 0,24	66	43	49,60	43	49,00	— 0,60	16	3,16
19	.....			.....		.....	66	33	37,07	33	35,00	— 2,07	16	0,72
20	.....			.....		.....	66	32	45,59	32	47,00	+ 1,41	16	3,48
21	.....			.....		.....	66	32	23,63	32	24,00	+ 0,37	16	2,37
22	.....			.....		.....	66	32	28,80	32	26,00	— 2,80	16	1,60
23	6	6	29,24	6	28,80	— 0,44	66	32	50,98	32	52,00	+ 1,02	15	59,34
25	.....			.....		.....	66	35	0,36	34	58,00	— 2,36		
26	.....			.....		.....	66	36	39,12	36	38,00	— 1,12	16	2,25
27	.....			.....		.....	66	38	46,12	38	43,00	— 3,12	16	2,16
28	.....			.....		.....	66	41	14,50	41	14,00	— 0,50	16	3,58
29	6	31	24,35	31	23,60	— 0,75	66	44	11,45	44	8,00	— 3,45	16	1,66
30	.....			.....		.....	66	47	30,50	47	27,00	— 3,50		
July 1	.....			.....		.....	66	51	12,76	51	9,00	— 3,76	16	1,67
2	6	43	48,73	43	48,40	— 0,33	66	55	20,33	55	17,00	— 3,33	16	0,94
3	6	47	56,14	47	56,20	+ 0,06	66	59	51,96	59	49,00	— 2,96	16	2,36
5	6	56	10,97	56	10,80	— 0,17	67	10	2,41	10	4,00	+ 1,59	16	1,24
7	.....			.....		.....	67	22	1,28	21	54,00	— 7,28	16	1,25
8	7	8	30,58	8	30,40	— 0,18	67	31	24,40	28	25,00	+ 0,60		
9	.....			.....		.....	67	35	20,93	35	20,00	— 0,93	16	0,26
12	7	24	51,43	24	51,40	— 0,03	67	58	15,41	58	21,00	+ 5,59		
13	7	28	55,82	28	55,60	— 0,22	68	6	46,70	6	47,00	+ 0,30		
15	7	37	3,29	37	2,50	— 0,79	68	24	41,77	24	46,00	+ 4,23	16	0,02
16	.....			.....		.....	68	34	21,94	34	18,00	— 3,94	16	3,98
17	.....			.....		.....	68	44	12,97	44	14,00	+ 1,03	16	1,92
18	.....			.....		.....	68	54	32,08	54	31,00	— 1,08	16	3,70
19	.....			.....		.....	69	5	7,40	5	8,00	+ 0,60	16	4,40
20	.....			.....		.....	69	16	9,90	16	8,00	— 1,90	16	1,26
21	.....			.....		.....	69	27	28,92	27	28,00	— 0,92	15	58,18
23	.....			.....		.....	69	51	17,19	51	11,00	— 6,19		
25	8	17	6,42	17	5,90	— 0,52								
27	8	24	59,85	24	59,50	— 0,35	70	42	36,84	42	37,00	+ 0,16	16	1,94
28	8	28	55,62	28	55,40	— 0,22	70	56	18,15	56	15,00	— 3,15	16	2,67
29	.....			.....		.....	71	10	17,36	10	12,00	— 5,36	16	1,94
30	.....			.....		.....	71	24	27,07	24	29,00	+ 1,93	15	59,98
August 1	.....			.....		.....	71	54	3,50	53	59,00	— 4,50	16	1,58
2	.....			.....		.....	72	9	7,58	9	10,00	+ 2,42	16	3,65
3	.....			.....		.....	72	24	39,17	24	37,00	— 2,17	16	2,23
4	8	56	9,79	56	9,70	— 0.09	72	40	20,96	40	24,00	+ 3,04	16	3,16
5	9	0	1,20	0	0,80	— 0,40	72	56	25,53	56	26,00	+ 0,47	16	1,40
6	9	3	51,52	3	51,30	— 0,22	73	12	41,00	12	45,00	+ 4,00	15	59,18
7	.....			.....		.....	73	29	24,87	29	21,00	— 3,87		
8	.....			.....		.....	73	46	13,25	46	12,00	— 1,25		
9	.....			.....		.....	74	3	20,28	3	19,00	— 1,28	16	1,68
10	9	19	7,60	19	7,40	— 0,20	74	20	46,67	20	42,00	— 4,67	16	3,20
11	9	22	55,33	22	55,10	— 0,23	74	38	25,82	38	20,00	— 5,82	16	1,24
12	9	26	42,71	26	42,70	— 0,01	74	56	16,70	56	13,00	— 3,70	15	59,95
13	9	30	29,74	30	28,90	— 0,84								
14	.....			.....		.....	74	32	42,15	32	44,00	+ 1,85	16	0,00
15	9	38	0,76	38	0,30	— 0,46	74	51	21,86	51	19,00	— 2,86	16	2,51

1833		Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables	Mean of Semi-diameter.	
		h.	m.	s.	m.	s.	s.	°	′	″	′	″	″	′	″
August	16	.....			.....		.....	76	10	6,24	10	7,00	+ 0,76	16	1,40
	17	9	45	30,26	45	29,80	— 0,46	76	19	14,88	19	11,00	— 3,88	16	0,04
	18	.....			.....		.....	76	48	24,33	48	26,00	+ 1,67	16	1,20
	21	10	0	22 75	0	22,30	— 0,45	77	47	25.65	47	25,00	— 0,65		
	23	10	7	46,30	7	45,70	— 0,60	78	27	36,67	27	43,00	+ 6,33	16	0,80
	24	.....			.....		.....	78	48	6.96	48	8,00	+ 1 04	16	1,28
	27	.....			.....		.....	78	50	29.24	50	36,00	+ 6,76	16	1,63
	28	.....			.....		.....	79	11	33,49	11	32 00	— 1,49		
	30	.....			.....		.....	80	54	13 89	54	11,00	— 2,89	16	1,91
	31	.....			.....		.....	81	15	46,00	15	44,00	— 2,00	16	2,67
Sept.	1	.....			.....		.....	81	37	20,90	37	26,00	+ 5,10	16	0,68
	2	.....			.....		.....	81	59	18,72	59	15,00	— 3,72		
	3	.....			.....		.....	82	21	12,45	21	12,00	— 0,45	16	0,68
	5	.....			.....		.....	83	5	28,44	5	29,00	+ 0,56	16	0,41
	6	10	58	46,05	58	46 00	— 0,05	83	27	49,66	27	48,00	— 1,66	16	0,14
	7	11	2	22,65	2	22,60	— 0,05	83	50	7,20	50	15,00	+ 7,80		
	8	11	5	59,18	5	58 80	— 0,38	84	12	40,76	12	43,00	+ 2,24	16	0,84
	9	11	9	35,03	9	35.00	— 0,03	84	35	23,52	35	24,00	+ 0,48	16	1 41
	10	11	13	11,05	13	11 00	— 0,05	84	58	10 48	58	7,00	— 3,48	16	1,15
	11	11	16	46,58	16	46 90	+ 0,32	85	20	58,43	20	56,00	— 2 43	16	0 83
	12	11	20	22,64	20	22,70	+ 0,06	85	43	52,64	43	51,00	— 1 64	16	0 46
	13	11	23	59,07	23	58 40	— 0,67	86	6	42,77	6	48,00	+ 5,23		
	14	11	27	34,41	27	33,90	— 0 51	86	29	50,37	29	50,00	— 0,37	16	0 80
	15	11	31	10 00	31	9,50	— 0,50	86	52	56,52	52	56,00	— 0 52	16	1 34
	16	11	34	45,32	34	45 00	— 0,32	87	16	6 30	16	6,00	— 0 30	16	2,02
	18	11	41	56,45	41	56,00	— 0,45	88	2	29,35	2	34,00	+ 4,65	15	59,74
	19	.....			.....		.....	88	25	51,00	25	51,00	0,00	16	0,28
	25	12	7	5,77	7	5,50	— 0,27								
	26	12	10	41,70	10	41,70	0,00	91	9	35,25	9	36,00	+ 0 75		
	27	.....			.....		.....	91	33	0,61	32	59,00	— 1 61		
	28	.....			.....		.....	91	56	26,80	56	23,00	— 3 80		
	29	.....			.....		.....	92	19	49,99	19	47,00	— 2,99	15	59,75
	30	.....			.....		.....	92	43	7,44	43	8 00	+ 0 56	16	0,40
October	2	12	32	22 92	32	22 50	— 0,42	93	29	47,72	29	48 00	+ 0,28	15	59,30
	3	12	36	0 40	36	0 30	— 0 10	93	53	3,65	53	5,00	+ 1,35	16	0,70
	4	12	39	38 55	39	38,50	— 0,05	94	16	17,33	16	18,00	+ 0,67	16	1,68
	6	12	46	56,12	46	55,80	— 0,32	95	2	38,90	2	36,00	— 2,90	16	1,88
	11	13	5	17,20	5	16,70	— 0,50	96	57	10 39	57	11,00	+ 0,61	16	0,20
	12	.....			.....		.....	97	19	47,00	19	51,00	+ 4 00	16	1,64
	13	13	12	40,71	12	40,40	— 0,31	97	42	21,89	42	20,00	— 1,89	16	3,05
	14	13	16	23,46	16	23,00	— 0,46	98	4	49,11	4	52,00	+ 2,89	16	1,20
	15	13	20	6,35	20	6,30	— 0,05	98	27	10,50	27	12,00	+ 1,50		
	16	13	23	50,19	23	49,90	— 0,29	98	49	23,52	49	26,00	+ 2,48	16	1,55
	18	13	31	19,47	31	19,10	— 0 37	99	33	33,44	33	30,00	— 3,44	16	1,38
	19	13	35	5,13	35	4,60	— 0,53	99	55	20,54	55	20,00	— 0,54	16	1,50
	21	.....			.....		.....	100	38	35 81	38	31,00	— 4,81		
	22	13	46	25,03	46	24.80	— 0,23	100	59	48 55	59	53,00	+ 4,49	15	59,51
	23	13	50	12 57	50	12,60	+ 0,03	101	21	4,99	21	2,00	— 2,99	16	1,68
	24	13	54	1,50	54	1,30	— 0,20	101	42	5 42	42	6,00	+ 0.58	16	2,63
	31	14	21	2,28	21	2,20	— 0,08	104	3	52,98	3	55,00	+ 2,02	16	1,10
Nov.	1	.....			.....		.....	104	23	20 10	23	20,00	— 0,10	16	1,52
	3	.....			.....		.....	105	1	28,49	1	26 00	— 2,49		
	4	.....			.....		.....	105	20	7,54	20	0,00	— 7,54	16	0,97
	5	14	40	44,19	40	43,60	— 0,59	.....			.....		.....	16	1 98

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.		Mean Semi-diameter.	
	h.	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″		″	′	″
Nov. 6	14	44	42,88	44	42,30	— 0,58	105	56	47 82	56	48 00	+	0,18	16	2,43
14	.....			.....		.....	108	12	10,38	12	15,00	+	4,62	16	3,08
16	.....			.....		.....	108	42	56,50	43	2,00	+	5,50		
17	14	29	25 78	29	25,60	— 0,18	.....			.....			.....	16	1,70
18	14	33	35 32	33	34 70	— 0,62	109	12	23,54	12	29,00	+	5,46	16	0,66
19	14	37	44,48	37	44,40	— 0,08	109	26	42 72	26	43 00	+	0,28	16	1,15
20	.....			.....		.....	109	40	35,26	40	35,00	—	0,26		
22	15	50	19,06	50	18,60	— 0,46	110	7	16,74	7	13 00	—	3 74		
23	15	54	31,45	54	31,40	— 0,05	110	19	59,62	19	59,00	—	0,62	16	2,53
24	.....			.....		.....	110	32	27,00	32	23 00	—	4,00		
25	.....			.....		.....	110	44	21,60	44	23,00	+	1,40		
28	.....			.....		.....	111	18	3,82	18	4,00	+	0,18	16	0,44
29	.....			.....		.....	111	28	26,70	28	31,00	+	4 30	16	1,75
Dec. 1	.....			.....		.....	111	48	4.13	48	8,00	+	3,87	16	3,22
2	.....			.....		.....	111	57	19,23	57	20 00	+	0,77	16	0 77
3	16	37	21,84	37	21,30	— 0,54	112	6	4,65	6	6,00	+	1,35	16	2,34
5	.....			.....		.....	112	22	19,90	22	22,00	+	2,10	15	57,60
6	16	50	26,18	50	25,30	— 0 88	112	29	46,61	29	50 00	+	3,39	15	59,68
7	16	54	48,07	54	47 70	— 0 37	112	36	50,59	36	50,00	—	0,59	15	57,90
8	16	59	10,94	59	10,70	— 0,24	112	43	20,30	43	29 00	+	8,70	16	3,36
9	.....			.....		.....	112	49	31,06	49	37,00	+	5 94	16	2,58
10	.....			.....		.....	112	55	12,84	55	10,00	—	2 84	16	2,33
11	17	11	22,42	12	22,20	— 0,22	113	0	29,49	0	34,00	+	4 51	16	3,23
12	17	16	47,39	16	46,90	— 0,49	113	5	13,94	5	21,00	+	7,06	16	2,60
14	.....			.....		.....	113	13	25,90	13	33,00	+	7,10		
15	.....			.....		.....	113	16	51 90	16	57,00	+	5,10	16	0,15
18	.....			.....		.....	113	24	17.72	24	23,00	+	5,28		
19	17	47	48,04	47	47,50	— 0,54	113	25	50 71	25	53 00	+	2 2		
20	17	52	15,12	52	14,00	— 1,12	113	26	53,65	26	56 00	+	2,35	6	0,15
22	.....			.....		.....	113	27	32,56	27	39,00	+	6,44	16	0,00
23	18	5	33,90	5	33,60	— 0,30	113	27	13 71	27	19,00	+	5,29	16	2,32
24	.....			.....		.....	113	26	20 51	26	29,00	+	8,49	16	1,84
26	18	18	53 37	18	53,20	— 0,17	113	23	18,50	23	24,00	+	5,50	16	1,75
27	18	23	19 90	23	19 50	— 0,40	113	21	5 75	21	10,00	+	4 25	16	3,56
29	18	32	12,21	32	11,60	— 0,61	113	15	9 69	15	17,00	+	7,31	16	3,14
30	18	36	37.59	36	37.30	— 0 29	113	11	32,74	11	39,00	+	6,26	16	1,08
31	18	41	3,31	41	3,00	— 0,31	113	7	26,81	7	32,00	+	5,19	16	0 46

Taking the mean of the above measures of the Sun's Semi-diameter for 1832 we have from 258 Observations....16′ 1″,52
—— ———— — 1833 — —— —— 257 ——— ....16′ 1″,30
differing very little from that found from the Observations of 1831.*

We will now select from the above, those observations which are made near to the Solstices, for the determination of the value of the obliquity of the Ecliptic as follows.

* Vol. I Page 69, ⊙s. Mean Semi-diameter for 16′ 0″,15 read 16′ 1″,15.

Observations of the Sun made near to the Summer Solstices of 1832 *and* 1833, *applied to the determination of the obliquity of the Ecleptic.*

1832	N. P. D.	Reduction.	Sun's Latitude.	Solsticial N.P.D.	Correction for ☽r. Nut.	Correction for ☉r. Nut $+\frac{t.\,0'',46}{365}$	Mean N.P.D. of the Solstice reduced to January 1.
	° ′ ″	° ′ ″	″	° ′ ″	″	″	° ′ ″
May 30	68 12 49 40	1 40 26,74	— 0,89	66 32 21,77	— 5,45	— 0,58	66 32 15,74
31	68 4 1,99	1 31 42 77	— 0,78	66 32 18,44	— 5,44	— 0,60	66 32 12,40
June 1	67 55 44 58	1 23 22,12	— 0,64	66 32 21,82	— 5,43	— 0,61	66 32 15,78
2	67 47 43 95	1 15 24,23	— 0,48	66 32 19,24	— 5,43	— 0,63	66 32 13,18
3	67 40 13,26	1 7 49,63	— 0 33	66 32 23,30	— 5,42	— 0,64	66 32 17,24
4	67 33 0 66	1 0 38,25	— 0,17	66 32 22 24	— 5,41	— 0,65	66 32 16,18
5	67 26 14,34	0 53 50,42	— 0,02	66 32 23,90	— 5 40	— 0,66	66 32 17,84
6	67 19 51,10	0 47 26,50	+ 0,11	66 32 24,71	— 5,39	— 0,67	66 32 18,65
7	67 13 48,35	0 41 26,23	+ 0 25	66 32 22,37	— 5,38	— 0,68	66 32 16,31
8	67 8 8,77	0 35 50,30	+ 0,33	66 32 18,80	— 5,38	— 0,69	66 32 12,73
9	67 3 4 85	0 30 38,07	+ 0,40	66 32 27,18	— 5,37	— 0,70	66 32 21,11
10	66 58 8 42	0 25 50,08	+ 0,42	66 32 18,76	— 5,36	— 0,71	66 32 12,69
11	66 53 50,47	0 21 26,12	+ 0,43	66 32 24,78	— 5,36	— 0,71	66 32 12,71
12	66 49 48,77	0 17 27,08	+ 0,39	66 32 22,08	— 5,35	— 0,72	66 32 16,01
13	66 46 15,80	0 13 52,37	+ 0,32	66 32 23,75	— 5,34	— 0,73	66 32 17,68
14	66 43 5,01	0 10 41,97	+ 0 20	66 32 23,24	— 5,34	— 0,73	66 32 17 17
15	66 40 19,76	0 7 56,09	+ 0,10	66 32 23,77	— 5,33	— 0,74	66 32 17,70
16	66 37 56,16	0 5 35,05	— 0,06	66 32 21,05	— 5,32	— 0,74	66 32 14,99
17	66 36 1,30	0 3 38 63	— 0 23	66 32 22,44	— 5,32	— 0,75	66 32 16,37
18	66 34 27,43	0 2 6,94	— 0,37	66 32 20,12	— 5,31	— 0,75	66 32 14,05
22	66 32 29,86	0 0 7,95	— 0 85	66 32 21,06	— 5,28	— 0,75	66 32 15,03
23	66 33 2 38	0 0 40,25	— 0,88	66 32 21,25	— 5,27	— 0,76	66 32 15 22
24	66 34 6,15	0 1 37,28	— 0,89	66 32 27,98	— 5 27	— 0,76	66 32 21,95
26	96 37 12,21	0 4 45,67	— 0,81	66 32 25,73	— 5,26	— 0,76	66 32 19,71
27	66 39 18,10	0 6 56,78	— 0,74	66 32 20,38	— 5 25	— 0,76	66 32 14,37
28	66 41 57.75	0 9 32,85	— 0,59	66 32 24 31	— 5,24	— 0,75	66 32 18,32
30	66 48 19,61	0 15 58,10	— 0,31	66 32 21,20	— 5,23	— 0,75	66 32 15,22
July 2	66 56 27 42	0 24 0,90	— 0.00	66 32 26,52	— 5,22	— 0 74	66 32 20 56
3	67 1 2,13	0 28 38,57	+ 0,15	66 32 23,71	— 5,21	— 0,74	66 32 17,76
4	67 6 7,63	0 33 40,30	+ 0,26	65 32 27 59	— 5,20	— 0 73	66 32 21.66
5	67 11 27,68	0 39 5,92	+ 0,36	66 32 22,12	— 5,19	— 0,72	66 32 16.21
6	67 17 15 99	0 44 55 45	+ 0,42	66 32 20,96	— 5,18	— 0,71	66 32 15,07
7	67 23 27,86	0 51 8,68	+ 0,46	66 32 19,74	— 5,17	— 0,70	66 32 13,77
1833							
May 30	68 14 56 42	1 42 38,98	+ 0,28	66 32 18,72	— 2,62	— 0,58	66 32 15,52
31	68 6 9,50	1 33 49,77	+ 0,25	66 32 19,98	— 2,61	— 0 60	66 32 16,77
June 1	67 57 43 95	1 25 23,25	+ 0,16	66 32 20,86	— 2,60	— 0,61	66 32 17,65
2	67 49 39 37	1 17 20,23	+ 0,06	66 32 19,20	— 2,59	— 0,63	66 32 15,98
3	67 41 58,90	1 9 39,97	— 0,05	66 32 18,88	— 2,58	— 0,64	66 32 15,66
4	67 34 46,36	1 2 23,22	— 0,12	66 32 23,02	— 2 57	— 0,65	66 32 19,80
5	67 27 49,58	0 55 29,80	— 0,30	66 32 19,48	— 2,57	— 0,66	66 32 16,25
6	67 21 22,53	0 49 0,02	— 0,44	66 32 22,07	— 2,56	— 0,67	66 32 18,84
7	67 15 12,89	0 42 53,90	— 0,55	66 32 18,44	— 2,55	— 0,68	66 32 15,21
8	67 9 35,10	0 37 11,80	— 0,66	66 32 22,64	— 2,54	— 0 69	66 32 19,41
9	67 4 14,97	0 31 53,58	— 0,77	66 32 20,62	— 2,53	— 0,70	66 32 17,39
11	66 54 51,15	0 22 29,62	— 0,85	66 32 20,68	— 2,52	— 0,71	66 32 17,45
12	66 50 48,41	0 18 24,09	— 0,86	66 32 23,46	— 2,51	— 0,72	66 32 20,23
13	66 47 6,64	0 14 43 08	— 0,85	66 32 22,71	— 2,50	— 0,73	66 32 19,48
14	66 43 49,60	0 11 26,56	— 0,78	66 32 22,26	— 2,49	— 0,73	66 32 19,04

1833	N. P. D.	Reduction.	Sun's Latitude.	Solsticial N.P.D.	Correction for ☽r. Nut.	Correction for ⊙r. Nut. t. 0″,46 / 365	Mean N.P.D. of the Solstice reduced to January 1.
	° ′ ″	° ′ ″	″	° ′ ″	″	″	° ′ ″
June 19	66 33 37,07	0 1 13,92	— 0,20	66 32 22,95	— 2,45	— 0,75	66 32 19,75
20	66 32 45 59	0 0 23 75	— 0,09	66 32 21,75	— 2,44	— 0,75	66 32 18,56
21	66 32 23,63	0 0 2,44	+ 0,06	66 32 21,25	— 2,43	— 0,76	66 32 18,06
22	66 32 28,80	0 0 3,87	+ 0,17	66 32 25,10	— 2,42	— 0,76	66 32 21,92
23	66 32 50,98	0 0 30,18	+ 0,25	66 32 21,05	— 2,41	— 0,76	66 32 17,88
25	66 35 0,36	0 2 37,15	+ 0,31	66 32 23,52	— 2,40	— 0,76	66 32 20,36
26	66 36 39,12	0 4 17,67	+ 0,30	66 32 21,75	— 2,39	— 0,76	66 32 18,60
27	66 38 46,12	0 6 22,88	+ 0,27	66 32 23,51	— 2,38	— 0,76	66 32 20,37
28	66 41 14,50	0 8 52,72	+ 0,20	66 32 21,98	— 2,37	— 0,75	66 32 18,86
29	66 44 11,45	0 11 47,10	+ 0,10	66 32 24,45	— 2,36	— 0,75	66 32 21,34
30	66 47 30 50	0 15 5,81	+ 0,04	66 32 24 73	— 2,35	— 0,75	66 32 21,63
July 1	66 51 12,76	0 18 49,00	— 0,12	66 32 23,64	— 2,34	— 0,74	66 32 20,56
2	66 55 20,33	0 22 56,44	— 0,25	66 32 23,64	— 2,33	— 0,74	66 32 20 57
3	66 59 51,96	0 27 27,98	— 0,38	66 32 23,60	— 2,32	— 0,73	66 32 20,55
5	67 10 2,41	0 37 43,30	— 0,62	66 32 18,49	— 2,30	— 0,72	66 32 15.47
7	67 22 1,28	0 49 31,80	— 0,78	66 32 25,70	— 2,29	— 0,70	66 32 22,71
8	67 28 24 40	0 56 4,65	— 0.82	66 32 18,93	— 2,28	— 0,69	66 32 15.96
9	67 35 20,93	1 2 58,81	— 0,82	66 32 21,30	— 2,27	— 0,68	66 32 18,35

And further we have:

Observations of the Sun made near to the Winter Solstice of 1832 *and* 1833, *applied to the determination of the obliquity of the Ecleptic.*

1832	N. P. D.	Reduction.	Sun's Lat.tude.	Solsticial N.P.D.	Correction for ☽r. Nut.	Correction for ⊙r. Nut. t. 0″,46 / 365	Mean N.P.D. of the Solstice reduced to January 1.
	° ′ ″	° ′ ″	″	° ′ ″	″	″	° ′ ″
Jan. 1	113 5 10,16	0 22 17,90	+ 0,74	113 27 28,80	+ 6,46	+ 0,50	113 27 35,76
2	113 0 25,66	0 27 5,68	+ 0,62	113 27 31,96	+ 6,46	+ 0,49	113 27 38,91
3	112 55 9,19	0 32 20,98	+ 0,51	113 27 30,68	+ 6,45	+ 0,48	113 27 37,61
4	112 49 25,77	0 38 3 80	+ 0,37	113 27 29,94	+ 6,44	+ 0,47	113 27 36,83
6	112 36 43,55	0 50 50,74	+ 0,07	113 27 34,36	+ 6 43	+ 0,46	113 27 41,25
7	112 29 39,23	0 57 54,64	— 0 09	113 27 33,78	+ 6,43	+ 0,45	113 27 40,66
8	112 22 4 23	1 5 25,20	— 0,24	113 27 29.19	+ 6,42	+ 0,44	113 27 36,05
9	112 14 11,47	1 13 22,27	— 0,38	113 27 33,36	+ 6 41	+ 0,43	113 27 40,20
10	112 5 46,20	1 21 45,94	— 0,47	113 27 31,67	+ 6,40	+ 0,42	113 27 38,49
11	111 56 57,08	1 30 34,67	— 0,55	113 27 31,20	+ 6,39	+ 0,41	113 27 38,00
12	111 47 47,83	1 39 49,30	— 0,58	113 27 36,55	+ 6,38	+ 0,40	113 27 43 33
13	111 38 2,25	1 49 29,18	— 0,59	113 27 30,84	+ 6,37	+ 0,40	113 27 37,61
14	111 28 0,62	1 59 34,57	— 0,55	113 27 34 64	+ 6,36	+ 0,39	113 27 41,39
15	111 17 30,45	2 10 3,90	— 0,51	113 27 33,84	+ 6,35	+ 0,37	113 27 40 56
18	110 43 35,60	2 43 58,52	— 0,16	113 27 33,96	+ 6,34	+ 0,31	113 27 40,61
19	110 31 28,91	2 56 4,98	— 0,02	113 27 33,87	+ 6,33	+ 0,30	113 27 40,50
21	110 6 10,93	3 21 25,43	+ 0,26	113 27 36 62	+ 6,32	+ 0,27	113 27 43,21
Nov. 21	109 57 12 86	3 30 25,78	+ 0.81	113 27 39,45	+ 4,14	+ 0.66	113 27 44 25
22	110 10 16,30	3 17 22,52	+ 0,75	113 27 39,57	+ 4,13	+ 0,68	113 27 44,38
23	110 22 53,92	3 4 41,40	+ 0,70	113 27 36,02	+ 4,13	+ 0,69	113 27 40,84
24	110 35 16,84	2 52 22,67	+ 0 58	113 27 40,09	+ 4,12	+ 0,71	113 27 44,92
25	110 47 4,37	2 40 26,83	+ 0,46	113 27 31,66	+ 4,11	+ 0,72	113 27 36,49
26	110 58 39,92	2 28 55,10	+ 0,31	113 27 35,33	+ 4,11	+ 0,74	113 27 40,18
27	111 9 50,58	2 17 46,50	+ 0,17	113 27 37,25	+ 4,10	+ 0,75	113 27 42,10

1832	N. P. D.	Reduction.	Sun's Latitude.	Solsticial N.P.D.	Correction for ☽r. Nut	Correction for ⊙r. Nut t. 0".46 / 365	Mean N.P.D of the Solstice reduced to January 1.
	° ′ ″	° ′ ″	″	° ′ ″	″	″	° ′ ″
Nov. 30	111 40 51,80	1 46 46,25	— 0,25	113 27 37.80	+ 4,08	+ 0.81	113 27 42 69
Dec. 1	111 53 21,68	1 37 15,05	— 0,37	113 27 36,36	+ 4,07	+ 0.83	113 27 41,26
6	112 31 23,66	0 56 5,65	— 0,45	113 27 28,86	+ 4,02	+ 0 91	113 27 33 79
7	112 38 26,97	0 49 9,87	— 0,37	113 27 36,47	+ 4,02	+ 0.92	113 27 41,41
8	112 44 48,70	0 42 41,35	— 0,26	113 27 29,79	+ 4,01	+ 0,93	113 27 34,73
13	113 10 29,95	0 17 2,08	+ 0,46	113 27 32 49	+ 3,98	+ 0 94	113 27 37,41
16	113 20 18,29	0 7 9,60	+ 0,77	113 27 28,66	+ 3 97	+ 0.95	113 27 33,38
17	113 22 43,35	0 4 48,08	+ 0,80	113 27 32,23	+ 3.96	+ 0.96	113 27 37,15
18	113 24 34,88	0 2 54,55	+ 0,82	113 27 30,25	+ 3.95	+ 0 97	113 27 35,17
19	113 26 5,56	0 1 29 03	+ 0,77	113 27 35,36	+ 3.91	+ 0,98	113 27 [illegible]
21	113 27 28,31	0 0 3,70	+ 0,61	113 27 32.62	+ 3.93	+ 0,98	113 27 [illegible]
22	113 27 30.39	0 0 1.35	+ 0,49	113 27 32,23	+ 3.92	+ 0.98	113 27 37,53
23	113 26 59,08	0 0 29,45	+ 0,34	113 27 28,87	+ 3 90	+ 0 99	113 27 37,14
24	113 26 8,63	0 1 25,86	+ 0,19	113 27 34,68	+ 3,89	+ 0 99	113 27 [illegible]
25	113 24 46,15	0 2 50,58	+ 0,05	113 27 36,78	+ 3,88	+ 0.98	113 27 39,55
29	113 14 18,81	0 13 13,65	— 0,45	113 27 32,01	+ 3,84	+ 0,97	113 27 36,82
1833							
Jan. 2	112 56 27,69	0 31 2,22	— 0,41	113 27 29 50	+ 3,83	+ 0.19	113 27 33,42
3	112 50 57,16	0 36 38,05	— 0 32	113 27 34,89	+ 3,83	+ 0.18	113 27 39,39
4	112 44 47,52	0 42 41,12	— 0.22	113 27 28,42	+ 3.82	+ 0.17	113 27 33,21
5	112 38 29,28	0 49 11,53	— 0,10	113 27 40,71	+ 3,81	+ 0,16	113 27 44,98
6	112 31 24 20	0 56 8,64	+ 0,02	113 27 32,86	+ 3,80	+ 0,15	113 27 37,11
7	112 24 7,26	1 3 32,50	+ 0,15	113 27 39,91	+ 3,80	+ 0,45	113 27 44,16
8	112 16 9,68	1 11 22,63	+ 0,28	113 27 32,59	+ 3,79	+ 0.44	113 27 36,82
9	112 7 54,75	1 19 39,10	+ 0,39	113 27 34,24	+ 3,78	+ 0.43	113 27 38 15
10	111 59 14,10	1 28 21,30	+ 0,50	113 27 35,90	+ 3,77	+ 0.42	113 27 40,09
11	111 50 5,69	1 37 29,42	+ 0 57	113 27 35,68	+ 3 76	+ 0,41	113 27 39,85
12	111 40 32,15	1 47 3,30	+ 0 63	113 27 36,08	+ 3.75	+ 0.40	113 27 40,23
14	111 20 11,59	2 7 26,08	+ 0,64	113 27 38,31	+ 3,74	+ 0.37	113 27 42 19
15	111 9 23,54	2 18 14,64	+ 0,62	113 27 38,80	+ 3.73	+ 0 35	113 27 42 88
16	110 58 7,80	2 29 27,76	+ 0,56	113 27 36,12	+ 3,72	+ 0,34	113 27 40,18
17	110 46 34,06	2 41 4,54	+ 0,46	113 27 39 06	+ 3,71	+ 0,32	113 27 43,09
18	110 34 31.29	2 53 5,35	+ 0,34	113 27 36,98	+ 3,70	+ 0,31	113 27 40,99
19	110 22 8,15	3 4 29,92	+ 0,23	113 27 38,30	+ 3,69	+ 0,30	113 27 42 29
21	109 56 14,36	3 31 26,05	— 0,03	113 27 40,38	+ 3,67	+ 0.27	113 27 41,32
22	109 42 43,05	3 44 58,18	— 0,17	113 27 41,06	+ 3,66	+ 0.26	113 27 41,98
Nov. 22	110 7 16,74	3 20 25,05	— 0,33	113 27 41,46	+ 1,13	+ 0,68	113 27 43,27
23	110 19 59,62	3 7 39,08	— 0,32	113 27 38,38	+ 1,12	+ 0,69	113 27 40,19
24	110 32 27,00	2 55 15,76	— 0,29	113 27 42,47	+ 1,12	+ 0.71	113 27 44,30
25	110 44 21,60	2 43 15,06	— 0,23	113 27 36,43	+ 1,11	+ 0,73	113 27 38 27
28	111 18 3,82	2 9 34,42	+ 0,12	113 27 38,36	+ 1,10	+ 0 79	113 27 40 25
29	111 28 26,70	1 59 8,50	+ 0,26	113 27 35,46	+ 1,09	+ 0,80	113 27 37 35
Dec. 1	111 48 4,13	1 39 30,70	+ 0,53	113 27 35,36	+ 1,07	+ 0,83	113 27 37,26
2	111 57 19,23	1 30 19,43	+ 0,64	113 27 39,30	+ 1,06	+ 0,84	113 27 41,20
3	112 6 4,65	1 21 33,02	+ 0,74	113 27 38,41	+ 1,05	+ 0,86	113 27 40,32
5	112 22 19,90	1 5 17,52	+ 0 85	113 27 38,27	+ 1,04	+ 0 88	113 27 40,19
6	112 29 46,61	0 57 48,95	+ 0,87	113 27 36,43	+ 1,03	+ 0,89	113 27 38,35
7	112 36 50,59	0 50 46,58	+ 0,88	113 27 38,05	+ 1,03	+ 0,90	113 27 39,98
8	112 43 20,30	0 44 11,02	+ 0,81	113 27 32,13	+ 1,02	+ 0,91	113 27 34,06
9	112 49 31,06	0 38 2 23	+ 0 75	113 27 34,04	+ 1,01	+ 0 92	113 27 35,97
10	112 55 12,84	0 32 20,50	+ 0,66	113 27 34,00	+ 1,00	+ 0,93	113 27 35,93
11	113 0 29,49	0 27 5 50	+ 0 54	113 27 35,53	+ 0,99	+ 0.94	113 27 37 46
12	113 5 13,94	0 22 18,65	+ 0,42	113 27 33,01	+ 0,98	+ 0,95	113 27 34 94

1833	N. P. D.	Reduction.	Sun's Latitude.	Solsticial N.P.D.	Correction for ☽r. Nut	Correction for ☉r. Nut t. 0″,46 / 365	Mean N.P.D. of the Solstice reduced to January 1.
	° ′ ″	° ′ ″	″	° ′ ″	″	″	° ′ ″
Dec. 14	113 13 25,90	0 14 7,12	+ 0,17	113 27 33,19	+ 0,97	+ 0,96	113 27 35,12
15	113 16 51,90	0 10 42,95	+ 0,05	113 27 34,90	+ 0,96	+ 0,97	113 27 36,83
18	113 24 17,72	0 3 17,62	— 0,20	113 27 35,14	+ 0,93	+ 0 99	113 27 37,06
19	113 25 50,71	0 1 46,73	— 0,23	113 27 37,21	+ 0,92	+ 0,99	113 27 39,12
20	113 26 53,65	0 0 43,16	— 0,24	113 27 36,57	+ 0,91	+ 1,00	113 27 38,48
22	113 27 32,56	0 0 0,92	— 0,14	113 27 33,34	+ 0,90	+ 1,00	113 27 35,24
23	113 27 13,71	0 0 22,10	— 0.04	113 27 35,77	+ 0,89	+ 1,00	113 27 37,66
24	113 26 20,51	0 1 11,90	+ 0,07	113 27 32,48	+ 0,88	+ 0,99	113 27 34 35
26	113 23 18,50	0 4 16,00	+ 0,29	113 27 34,79	+ 0,86	+ 0 98	113 27 36 63
27	113 21 5,75	0 6 30,25	+ 0,44	113 27 36,44	+ 0,85	+ 0,98	113 27 38,27
29	113 15 9,69	0 12 23,40	+ 0,68	113 27 33,77	+ 0,83	+ 0,97	113 27 35 57

Taking the means we have :

Mean Obliquity January 1, 1832.

	° ′ ″
From 33 Observations of the Summer Solstice of 1832.....	23 27 43 59
From 33 ——— ——— ——— of 1833 23° 27′ 41″,29 — 0″,46....	23 27 40,83
Obliquity from Summer Solstices of 1832 and 1833 =	23 27 42,21
From 40 Observations at the Winter Solstice of 1832-33.....	23 27 39,20
From 47 ——— ——— ——— of 1833-34 23° 27′ 39″,07 — 0″,46..	23 27 38,52
Obliquity from Winter Solstices of 1832 and 1833 =	23 27 38,83
Finally we have from the means of the whole.....	23 27 40 52

We will now from the Observations of the Sun near to the time of the Equinoxes compare the Right Ascension as determined by the Transit Instrument with that computed from the observed N. P. D.

Observations of the Sun made near to the Vernal Equinox in 1832 *and* 1833, *applied to the determination of the error of the assumed Equinoctial Point.*

1832	Reduced N.P.D. of the Sun.	Correction.	N. P. D. reduced on account of Sun's Latitude.	Comp'ed A. R.	Observed A.R.	Error of Eq.Point.	Remarks.
	° ′ ″	″	° ′ ″	h. m. s.	m. s.	s.	
February 10	104 38 3,00	— 0,69	104 38 2,31	21 32 2,41	32 1,90	— 0,51	
11	104 18 41,46	— 0,64	104 18 40.82	21 35 59,16	35 59,42	+ 0,26	
12	103 58 58,84	— 0,55	103 58 58,29	21 39 56,50	39 56,67	+ 0,17	
14	103 19 0,46	— 0,29	103 19 0,17	21 47 47,29	47 46,51	— 0,78	
15	102 58 40,60	+ 0,18	102 58 40,78	21 51 41,66	51 41,44	— 0,22	

1832	Reduced N.P.D. of the Sun.	Correction.	N. P. D. reduced on account of Sun's Latitude.	Computed A. R.	Observed A.R.	Error of Eq. Point.	Remarks.
	° ′ ″	″	° ′ ″	h. m. s.	m. s.	s.	
February 17	102 17 24,55	+ 0,21	102 17 24,76	21 59 28,26	59 27,62	— 0,64	
18	101 56 29,40	+ 0,23	101 56 29,63	22 3 20,34	3 19,98	— 0,36	
20	101 14 6,88	+ 0,45	101 14 7,33	22 11 2,18	11 2,05	— 0,13	
21	100 52 35,17	+ 0,50	100 52 35,67	22 14 52,60	14 52,05	— 0 55	
22	100 30 59,96	+ 0,53	100 31 0,49	22 18 41,77	18 41,41	— 0,36	
23	100 9 14,08	+ 0,55	100 9 14 63	22 22 30,20	22 30,61	+ 0,41	
24	99 47 16,27	+ 0,52	99 47 16,79	22 26 18,47	26 18,67	+ 0,20	
25	99 25 5,41	+ 0,46	99 25 5,87	22 30 6,85	30 6,02	— 0,83	
26	99 2 47,56	+ 0,35	99 2 47,91	22 33 54,39	33 53,64	— 0,75	
March 1	97 32 35,88	— 0,20	97 32 35,68	22 48 56,18	48 55,93	— 0,25	
2	97 9 40,18	— 0,38	97 9 39,80	22 52 41,22	52 40,20	— 1,02	
3	96 46 46,24	— 0,52	96 46 45,72	22 56 24,52	56 24,18	— 0,34	
4	96 23 43,27	— 0,63	96 23 42,64	23 0 7,87	0 7,21	— 0,66	
5	96 0 38,10	— 0,69	96 0 37,41	23 3 50,27	3 50,45	+ 0,18	
6	95 37 17,60	— 0,75	95 37 16,85	23 7 33,89	7 33 06	— 0,83	
7	95 14 8,80	— 0,80	95 14 8 00	23 11 14,53	11 15,11	+ 0,58	
8	94 50 45,89	— 0,81	94 50 45,08	23 14 56,36	14 56,67	+ 0,31	
9	94 27 20 70	— 0,76	94 27 19,94	23 18 37,56	18 37,99	+ 0,43	
10	94 3 45,61	— 0,69	94 3 44,92	23 22 19,43	22 18,97	— 0,46	
11	93 40 16,45	— 0,59	93 40 15 86	23 25 59,56	26 0,07	+ 0,51	
12	93 16 34,74	— 0,46	93 16 34,28	23 29 40 93	29 39,62	— 1,31	
13	92 53 3,09	— 0,30	92 53 2,79	23 33 20,07	33 19,43	— 0,64	
14	92 29 24,00	— 0,17	92 29 23,83	23 36 59,81	36 59,13	— 0,68	
15	92 5 48,99	— 0,03	92 5 48,96	23 40 38,43	40 38,44	+ 0,01	
16	91 42 4,68	+ 0,11	91 42 4,79	23 44 18,12	44 17,49	— 0,63	
17	91 18 26,27	+ 0,23	91 18 26,50	23 47 56,55	47 56,47	— 0,08	
18	90 54 47,50	+ 0,35	90 54 47,85	23 51 34,77	51 35,02	+ 0,25	
19	90 31 7,53	+ 0,42	90 31 7,95	23 55 13,02	55 13 50	+ 0,48	
20	90 7 25,25	+ 0,47	90 7 25 72	23 58 51,53	58 52 11	+ 0,58	
21	89 43 42,84	+ 0,47	89 43 43 31	0 2 30,04	2 30.28	+ 0,24	
22	89 20 6,12	+ 0.44	89 20 6,56	0 6 7,73	6 8,27	+ 0,54	
23	88 56 24,08	+ 0,39	88 56 24,47	0 9 46,38	9 46,31	— 0,07	
24	88 32 40,98	+ 0.29	88 32 41,27	0 13 25 39	13 24 39	— 1 00	
25	88 9 11,58	+ 0,17	88 9 11,75	0 17 2,58	17 2,32	— 0 26	
26	87 45 38,10	+ 0,04	87 45 38,14	0 20 40,75	20 40,24	— 0,51	
27	87 22 8,80	— 0,11	87 22 8 69	0 24 18,71	24 18,21	— 0,50	
28	86 58 50,12	— 0 26	86 58 49,86	0 27 55,53	27 56,14	+ 0,61	
30	86 12 1,12	— 0,54	86 12 0,58	0 35 12,77	35 12,60	— 0,17	
31	85 48 52 19	— 0,67	85 48 51,52	0 38 50,03	38 50,74	+ 0,71	
April 1	85 25 35,96	— 0,78	85 25 35,18	0 42 29,22	42 29,22	0,00	
2	85 2 39,39	— 0,84	85 2 38,55	0 46 6,21	46 7,69	+ 1,48	
3	84 39 36,02	— 0,86	84 39 35,16	0 49 45,22	49 46,12	+ 0 90	
4	84 16 35,87	— 0,84	84 16 35,03	0 53 24,77	53 24,51	— 0,26	
5	83 53 45,69	— 0,81	83 53 44,88	0 57 3,84	57 3,39	— 0,45	
6	83 31 1,49	— 0,75	83 31 0,74	1 0 43,15	0 42,48	— 0,67	
15	80 12 31,85	+ 0,35	80 12 32,20	1 33 43,40	33 43,40	0 00	
16	79 51 10,54	+ 0,38	79 51 10,92	1 37 25,33	37 25,75	+ 0,42	
1833							
February 10	104 23 34,23	+ 0,56	104 23 34,79	21 34 59,87	34 59,51	— 0,36	
12	103 44 4,78	+ 0,47	103 44 5,25	21 42 53 67	42 53,30	— 0,37	
13	103 24 1,74	+ 0,38	103 24 2,12	21 46 48,98	46 48,61	— 0,37	
15	102 43 13,18	+ 0,18	102 43 13,36	21 54 38,10	54 36,82	— 1,28	
16	102 22 39,38	+ 0,05	102 22 39,43	21 58 29,85	58 30,01	+ 0,16	

1833	Reduced N.P.D. of the Sun.	Correction.	N. P. D. Reduced on account of Sun's Latitude	Computed A. R.	Observed A.R.	Error of Eq.Point.	REMARKS.
	° ′ ″	″	° ′ ″	h. m. s.	m. s.	s.	
February 17	102 1 44,63	— 0,09	102 1 44,57	22 2 22,59	2 22,58	— 0,01	
18	101 40 38,74	— 0,22	101 40 38,52	22 6 14 58	6 14 37	— 0,21	
19	101 19 23,09	— 0,34	101 19 22,75	22 10 5,66	10 5,21	— 0,45	
21	100 36 23,80	— 0,51	100 36 23,29	22 17 45,14	17 45,75	+ 0,61	
25	99 8 20,59	— 0,53	99 8 20,06	22 32 58,25	32 58,11	— 0,14	
26	98 45 58 69	— 0,48	98 45 58,21	22 36 44 95	36 44,77	— 0,18	
27	98 23 31,78	— 0,38	98 23 31,40	22 40 30,63	40 30,64	+ 0;01	
28	98 0 52,63	— 0,28	98 0 52,35	22 44 16,58	44 16,18	— 0,40	
March 1	97 38 12,79	— 0,19	97 38 12 60	22 48 0,95	48 1,02	+ 0,07	
2	97 15 21,56	— 0,06	97 15 21,50	22 51 45,61	51 45,46	— 0,15	
3	96 52 30,74	+ 0,06	96 52 30,80	22 55 28,69	55 29,32	+ 0,63	
4	96 29 27,33	+ 0 18	96 29 27,51	22 59 12,41	59 12,55	+ 0,14	
5	96 6 22 57	+ 0,28	96 6 22,85	23 2 55,03	2 55,14	+ 0,11	
6	95 43 9,59	+ 0 38	95 43 9,97	23 6 37,72	6 37,87	+ 0,15	
7	95 19 58,31	+ 0 45	95 19 58,76	23 10 19,00	10 19 71	+ 0,71	
9	94 33 12 83	+ 0,47	94 33 13,30	23 17 42 09	17 42,63	+ 0,54	
10	94 9 44,96	+ 0,45	94 9 45,41	23 21 23,06	21 23,59	+ 0,53	
11	93 46 6,52	+ 0,40	93 46 6,92	23 25 - 4,85	25 4,17	— 0 68	
13	92 58 59,66	+ 0,21	92 58 59,87	23 32 24,73	33 24,34	— 0 39	
15	92 11 45,46	— 0,02	92 11 45,44	23 39 43,47	39 43,47	0 00	
19	90 36 56,16	— 0,49	90 36 55,67	23 54 19,60	54 19,30	— 0,30	
21	89 49 34,57	— 0,64	89 49 33,93	0 1 36,19	1 36,46	+ 0,27	
22	89 25 54,83	— 0 65	89 25 54,18	0 5 14,31	5 14,68	+ 0,37	
23	89 2 12,24	— 0,65	89 2 11 59	0 8 52,97	8 52 94	— 0,03	
25	88 14 57,74	— 0,68	88 14 57,06	0 16 9,32	16 9,05	— 0,27	
26	87 51 22,43	— 0,50	87 51 21.93	0 19 47,62	19 46,96	— 0,66	
27	87 27 56,06	— 0,40	87 27 55,66	0 23 24,96	23 25,21	+ 0,25	
29	86 41 6.18	— 0,17	86 41 6,01	0 30 40,74	30 41,03	+ 0,29	
30	86 17 41,50	— 0,05	86 17 41.45	0 34 19,52	34 18,96	— 0,56	
April 1	85 31 19,65	+ 0,20	85 31 19,85	0 41 34,97	41 34,99	+ 0,02	
2	85 8 19,02	+ 0,29	85 8 19,31	0 45 12,33	45 13,33	+ 1,00	
3	84 45 17,78	+ 0,36	84 45 18,14	0 48, 50 76	48 51,63	+ 0,87	
4	84 22 15 83	+ 0,38	84 22 16.21	0 52 30,29	52 30 08	— 0,21	
5	83 59 24,94	+ 0,39	83 59 25,33	0 56 9.18	56 8,63	— 0,55	
6	83 36 42,09	+ 0,40	83 36 42 49	0 59 47.97	59 47,96	— 0,01	
7	83 14 5,33	+ 0,35	83 14 5,68	1 3 27,03	3 26,81	— 0 22	
8	82 51 36,47	+ 0 28	82 51 36,75	1 7 6,16	7 6,06	— 0,10	
9	82 29 14,25	+ 0,18	82 29 14,43	1 10 45 61	10 45,34	— 0,27	
14	80 39 28 60	— 0.45	80 39 28.15	1 29 6 19	29 7,01	+ 0,82	
17	79 35 18,23	— 0.74	79 35 17.49	1 40 11,64	40 12 38	+ 0,74	
19	78 53 18,19	— 0,75	78 53 17,44	1 47 37,84	47 37.39	— 0,45	
20	78 32 37.70	— 0,73	78 32 36 97	1 51 20,97	51 20,78	— 0,19	
22	77 51 45,72	— 0,59	77 51 45,13	1 58 49,40	58 48,71	— 0,69	

NOTE.—In the foregoing computations, and in those which follow, the Sun's Latitude has been computed from VINCE's Tables for the year 1832, and copied from the Nautical Almanac for the year 1833: the values of the obliquity of the Ecliptic employed are those given in the Supplements to the Nautical Almanac.

And further we have:

Observations of the Sun made near to the Autumnal Equinox in 1832 *and* 1833, *applied to the determination of the error of the assumed Equinoctial Point.*

1832	Reduced N.P.D. of the Sun.	Correction.	N. P. D. Reduced on account of Sun's Latitude.	Computed A. R.	Observed A.R.	Error of Eq.Point.	Remarks.
	° ′ ″	″	° ′ ″	h. m. s.	m. s.	s.	
August 19	77 12 34 40	— 0,75	77 12 33,65	9 53 50 10	53 50,86	+- 0.76	
20	77 32 15.95	— 0,57	77 32 15,38	9 57 32,69	57 33,69	+ 1,00	
21	77 52 9,12	— 0,50	77 52 8,62	10 1 14,74	1 15,59	+ 0,85	
22	78 12 17,81	— 0 39	78 12 17,42	10 4 57,07	4 57,57	+ 0,50	
23	78 32 34,72	— 0,29	78 32 34,43	10 8 38,40	8 38,75	+ 0,35	
25	79 13 50 09	+ 0,10	79 13 50,19	10 16 1,40	16 0,87	— 0,53	
27	79 55 35,70	+ 0,37	79 55 36,07	10 23 20,81	23 20,62	— 0 19	
28	80 16 40,24	+ 0,48	80 16 40,72	10 26 59,46	27 0,20	+ 0,74	
29	80 38 4,17	+ 0,57	80 38 4,74	10 30 39,46	30 39,24	— 0,22	
30	80 59 26,61	+ 0 60	80 59 27,21	10 34 17,32	34 17,75	+ 0,43	
31	81 21 0,28	+ 0 62	81 21 0 90	10 37 55,15	37 56 23	+ 1,08	
September 4	82 48 42,95	+ 0,31	82 48 43,26	10 52 25,48	52 25,74	+ 0,26	
6	83 33 16,04	+ 0,06	83 33 16 10	10 59 38,73	59 39 23	+ 0 50	
7	83 55 43,26	— 0,08	83 55 43,18	11 3 15,17	3 15,93	+ 0,76	
9	84 41 2,89	— 0,37	84 41 2 52	11 10 28,67	10 27,91	— 0,76	
10	85 3 47,45	— 0,49	85 3 46,96	11 14 4,63	14 4,16	— 0,47	
15	86 58 30,78	— 0,63	86 58 30,15	11 32 1 45	32 1,05	— 0,40	
16	87 21 38 43	— 0,53	87 21 37 90	11 35 36 58	35 36,33	— 0,25	
20	88 54 42,27	0,00	88 54 42,27	11 49 57 91	49 58,33	+ 0,42	
21	89 18 7 92	+ 0,16	89 18 8,08	11 53 34,07	53 34,02	— 0,05	
23	90 5 1,09	+ 0 44	90 5 1,53	12 0 46,25	0 45,77	— 0,48	
24	90 28 22,24	+ 0 57	90 28 22,81	12 4 21,60	4 21,46	— 0,14	
25	90 51 48 97	+ 0,65	90 51 49 62	12 7 57,81	7 57 55	— 0,26	
26	91 15 13,55	+ 0,70	91 15 14,25	12 11 33,85	11 33,26	— 0,59	
27	91 38 35,55	+ 0,71	91 38 36,26	12 15 9 73	15 10,66	+ 0 93	
28	92 2 2,24	+ 0 72	92 2 2,96	12 18 46 59	18 46,92	+ 0,33	
30	92 48 47,45	+ 0,57	92 48 48,02	12 26 0,40	26 0,94	+ 0,54	
October 1	93 12 2,44	+ 0,41	93 12 2,85	12 29 36,85	29 37.70	+ 0,85	
2	93 35 28,25	+ 0 29	93 35 28 54	12 33 15,61	33 16,41	+ 0,80	
4	94 21 58,44	0.00	94 21 58,44	12 40 31 94	40 32,07	+ 0,13	
7	95 31 16 87	— 0,36	95 31 16,51	12 51 28,70	51 28 31	— 0,39	
8	95 54 12,56	— 0 47	95 54 12,09	12 55 8,03	55 9,28	+ 1,25	
9	96 17 8.14	— 0 52	96 17 7,62	12 58 48.53	58 48,97	+ 0,44	
11	97 2 36,15	— 0,54	97 2 35,61	13 6 9 61	6 10,42	+ 0,81	
12	97 25 17,91	— 0 53	97 25 17.38	13 9 51,89	9 52.25	+ 0,36	
13	97 47 42,99	— 0,43	97 47 42,56	13 13 32,95	13 34.20	+ 1,25	
14	98 10 10.93	— 0,37	98 10 10 56	13 17 16,07	17 16,69	+ 0,62	
15	98 32 28,43	— 0,22	98 32 28.21	13 20 59,15	20 59 66	+ 0,51	
21	100 43 39,23	+ 0,61	100 43 39 84	13 43 32,00	43 31,90	— 0 10	
22	101 4 51,71	+ 0 68	101 4 52,39	13 47 18 26	47 19,30	+ 1,04	
23	101 25 59.41	+ 0 76	101 26 0,17	13 51 6,11	51 7,33	+ 1,22	
24	101 47 2,79	+ 0 80	101 47 3 59	13 54 55,73	54 56 51	+ 0.78	
25	102 7 52 25	+ 0,80	102 7 53.05	13 58 45,50	58 45,82	+ 0.32	
26	102 28 29,93	+ 0,75	102 28 30 68	14 2 35 87	2 36,37	+ 0,50	
27	102 48 55,17	+ 0,67	102 48 55,84	14 6 26,80	6 27,71	+ 0,91	
28	103 9 6,56	+ 0 55	103 9 7,11	14 10 18,12	10 19,51	+ 1,39	
29	103 29 9,27	+ 0,42	103 29 9,69	14 14 10 91	14 12 06	+ 1,15	
30	103 49 0,54	+ 0,24	103 49 0,78	14 18 4,71	18 5,38	+ 0,67	

1833	Reduced N.P.D. of the Sun.	Correction.	N. P. D. Reduced on account of Sun's Latitude.	Computed A. R.	Observed A.R.	Error of Eq.Point.	REMARKS.
	° ′ ″	″	° ′ ″	h. m. s.	m. s.	s.	
August 21	77 47 25,65	+ 0,38	77 47 26,03	10 0 22,75	0 22,75	0,00	
23	78 27 36 67	+ 0,23	78 27 36,90	10 7 44,85	7 46,30	+ 1,45	
September 6	83 27 49,66	— 0,37	83 27 49,29	10 58 46,16	58 46,05	— 0,11	
7	83 50 7,20	— 0.25	83 50 6,95	11 2 21.37	2 22,65	+ 1,28	
8	84 12 40,76	— 0,13	84 12 40,63	11 5 58 00	5 58,18	+ 0,18	
9	84 35 23,52	0,00	84 35 23,52	11 9 34,98	9 35 03	+ 0,05	
10	84 58 10,48	+ 0,12	84 58 10,60	11 13 11,58	13 11,05	— 0 53	
11	85 20 58 43	+ 0,25	85 20 58,68	11 16 47,38	16 46.58	— 0,80	
12	85 43 52,64	+ 0 36	85 43 53.00	11 20 23 30	20 22,64	— 0,66	
13	86 6 42,77	+ 0,45	86 6 43,22	11 23 57,76	23 59,07	+ 1,31	
14	86 29 50,37	+ 0 51	86 29 50,88	11 27 34,22	27 34 41	+ 0,19	
15	86 52 56,52	+ 0,55	86 52 57,07	11 31 9,80	31 10,00	+ 0,20	
16	87 16 6 30	+ 0,54	87 16 6,84	11 34 45 33	34 45.32	— 0,01	
18	88 2 29,35	+ 0,44	88 2 29,79	11 41 55 50	41 56,45	+ 0,95	
26	91 9 35.25	— 0,45	91 9 34,80	12 10 41,60	10 41.70	+ 0,10	
October 2	93 29 47,72	— 0,41	93 29 47 31	12 32 22,37	32 22,92	+ 0 55	
3	93 53 3 65	— 0,31	93 53 3,34	12 36 0 16	36 0,40	+ 0,24	
4	94 16 17,33	— 0,19	94 16 17,14	12 39 38,29	39 38.55	+ 0 26	
6	95 2 38,90	+ 0,08	95 2 38,98	12 46 56 25	46 56,12	— 0,13	
11	96 57 10 39	+ 0 61	96 57 11,00	13 5 16,71	5 17,20	+ 0,49	
13	97 42 21,89	+ 0,65	97 42 22,54	13 12 40,07	12 40,71	+ 0 64	
14	98 4 49,11	+ 0,63	98 4 49,74	13 16 22,69	16 23,46	+ 0,77	
15	98 27 10.50	+ 0,56	98 27 11,06	13 20 5 93	20 6,35	+ 0,42	
16	98 49 23,52	+ 0,48	98 49 24,00	13 23 49,56	23 50.19	+ 0 63	
18	99 33 33,44	+ 0,27	99 33 33,71	13 31 19 73	31 19,47	— 0.26	
19	99 55 20,54	+ 0,16	99 55 20,70	13 35 4.77	35 5,13	+ 0,36	
22	100 59 48,55	— 0,20	100 59 48 35	13 46 23 75	46 25,03	+ 1,28	
23	101 21 4,99	— 0,30	101 21 4 69	13 50 12 53	50 12,57	+ 0.04	
24	101 42 5,42	— 0,37	101 42 5,05	13 54 0,98	54 1,50	+ 0,52	

Taking the means and referring to the Observations of 1831, for the results of that year we have:

	ERROR OF THE ASSUMED EQUINOCTIAL POINT.		MEAN.
	s.	s.	s.
1831 From 19 Obs. at Vernal Eq.	+ ,055	from 17 Obs. at Aut. Eq. + ,267	+ ,161
1832 —— 50 —— — —— — —	+ ,140	—— 48 —— — — — — + ,399	+ ,130
1833 —— 48 —— — —— — —	+ ,046	—— 29 —— — — — — + ,325	+ ,140
General Mean.....	— ,068	——	+ ,352 + ,142

Now the above observed places are derived from the Equinoctial Point assumed by Dr. Maskelyne + 0″,20: hence it appears that *the place of the true Equinox, is* Dr. MASKELYNE + 0″,058.

It must here be recollected that the above measures of N. P. D. are derived from a comparison of the observed places of certain fixed Stars, with their places given in the Greenwich Catalogue; the latter depending upon the

assumption that the latitude of the Greenwich Royal Observatory = 51° 28′ 39″,00. Now any error in this assumption will necessarily occasion a similar error in the determination of the North Polar Distance of the Sun, Planets, Moon, and fixed Stars; and further, our result of the latitude of the Madras Observatory determined at Page 95, of Vol. I. will be erroneous to the like amount.

If to the above cause we now refer the disagreement between the Solsticial declination of the Sun in Winter and Summer at Page 79, and the disagreement between the Equinoctial point found from the Spring and Autumn Observations as above; we determines as follows.

	Latitude of Greenwich. °	′	″
To reconcile the Summer and Winter Solstices of 1831.....	51	28	38,29
——— — ——— — ——— ——— — 1832.....	51	28	36,81
——— — ——— — ——— ——— — 1833.....	51	28	37,85
——— — Spring and Autumn Equinoxes — 1831.....	51	28	38,30
——— — ——— — ——— ——— — 1832.....	51	28	37,26
——— — ——— — ——— ——— — 1833.....	51	28	37,80
Giving to each result the same weight and taking the Mean =	51	28	37,72

and the reduced value of the latitude of the Madras Observatory 13° 4′ 7″,93: for the present I propose to consider these determinations too small by half a second at least; an opinion which rests on the improbability that the numerous and carefully made Observations at Greenwich can err to this amount on the one hand, and on the other from the general irregularity of the Solar Observations at Madras, the above result cannot be allowed to determine a point of so much importance and to this degree of accuracy.

With regard to the irregularity just noticed I have to remark, that in this climate the edge of the Sun is frequently ill defined and tremulous, which will account for some of the discordances which are found; whether the fierce rays of a vertical Sun which on one occasion may unavoidably remain longer on the Telescope than at another will account for the rest, is a subject to which I propose immediately to turn my attention.

In the next place we come to the Observations of the Planets; these have been reduced to the *apparent* place, as would be viewed by an observer situated at the centre of the Earth; for this purpose the parallaxes employed have been computed from the Horizontal Parallaxes given in the Supplement to the Nautical Almanac.

Apparent Right Ascension and North Polar Distance of MERCURY.

1832		Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
		h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
February	18	22	52	27,8	Centre.	20	44	22 92	Centre.	109	33	37,96	
March	12	23	49	32,7	——	23	13	5 84	——	97	9	23,59	
April	2	0	52	55,8	——	1	35	30.68	——	.....			
	3	0	55	45,8	——	1	42	17,52	——	78	12	35,78	
	4	0	58	28,0	——	1	48	56,37	——	77	23	9,48	
	5	1	0	58,6	——	1	55	24,09	——	76	35	39,44	
	7	1	5	27,5	——	2	7	47,14	——	75	7	23,45	
	9	1	8	58,3	——	2	19	12.22	——	73	48	43,07	
	10	1	10	24,5	——	2	24	35,39	——	73	13	23.41	
October	6	23	7	26,8	——	12	10	54,23	——	89	6	16,89	
November	5	0	13	34,3	——	15	11	35 35	——	108	41	17,75	
	10	0	25	11,1	——	15	42	56,69	——	111	5	10,69	
	12	0	29	56,6	——	15	55	36,31	——	111	55	33,71	
	15	0	37	12,4	——	16	14	42 77	——	113	2	59,82	
	18	0	44	33,3	——	16	33	55,71	——	112	59	58,15	
	19	0	47	2,4	——	16	40	21 68	——	114	16	34,42	
	23	0	56	51.7	——	17	5	58.04	——	115	10	9,17	
December	5	1	20	45,8	——	18	17	14,48	——	115	36	52,37	
	8	1	22	50,6	——	18	31	9,31	——	115	11	51,63	
1833													
March	18	0	59	33,0	——	0	42	2,21	——	84	51	7,51	
	23	1	9	0,8	——	1	11	15,29	——	80	42	17,95	
	25	1	10	58,6	——	1	21	6,36	——	79	17	51.48	
	26	1	11	28,3	——	1	25	32,76	——	78	39	40,16	
	27	1	11	37,4	——	1	29	38,62	——	78	4	34.61	
	28	1	11	24.2	——	1	33	21,79	——	77	32	35,76	
	29	1	10	48,0	——	1	36	42,12	——	77	3	50,33	
April	1	1	6	36,7	——	1	44	19,53	——	75	58	5,46	
May	28	22	36		——	.....			——	75	8	57,74	
	31	22	50	36,5	——	3	21	57,46	——	73	21	8,20	
July	17	1	50		——	.....			——	74	45	54,00	
October	19	0	21	13,8	——	14	11	17,32	——	103	39	32,36	
	21	0	25	15.4	——	14	23	12,66	——	104	54	19,58	
December	23	22	27	30,1	——	16	37	26,89	——	109	32	19,03	
	25	22	24	44,8	——	16	43	33,15	——	109	58	33,07	

Apparent Right Ascension and North Polar Distance of VENUS.

1832		Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed	N. P. D.			Remarks.
		h.	*m.*	*s.*		*h*	*m.*	*s.*		°	′	″	
January	24	21	5	59,0	2 L.	17	19	50,61	Centre.	110	47	53,14	
	26	21	8	1,9	——	17	29	47 29	——	111	2	15,27	
	29	21	11	14,3	——	17	44	48,13	——	111	19	47,23	
	30	21	12	19.3	——	7	49	50,22	——	.....			
	31	21	13	23,6	——	17	54	52,60	——	111	28	33,17	
February	1	21	14	30.5	——	17	59	56,21	——	111	32	7,02	
	3	21	16	45.8	——	18	10	4,92	——	111	37	38,93	

Apparent Right Ascension and North Polar Distance of VENUS, continued.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
February 4	21	17	54,1	2 L.	18	15	9,91	Centre.	111	39	27,33	
5	21	19	0,4	——	18	20	15,42	——	111	40	42,87	
7	21	21	21,8	——	18	30	27,30	——	111	41	29,47	
8	21	22	31,8	——	18	35	34,28	——	111	40	45,50	
11	21	26	0,9	——	18	50	55,45	——	111	35	24,42	
12	21	27	12,1	——	18	56	2,61	——	111	32	22 38	
22	21	38	53,4	——	19	47	10,59	——	110	28	46,09	
23	21	40		——	.....			——	110	19	7 20	
24	21	41	10,0	——	19	57	20,64	——	110	8	50,92	
25	21	42	15,2	——	20	2	24,93	——	109	58	1,77	
27	21	44	30,6	——	20	12	31,55	——	109	34	36 02	
29	21	46	41 0	——	20	22	35 13	——	109	8	56,41	
March 1	21	47	45,5	——	20	27	36 54	——	108	55	11 00	
2	21	48	48,6	——	20	32	36,44	——	108	40	58,79	
3	21	49	51,4	——	20	37	36,03	——	108	26	14,11	
4	21	50	54,0	——	20	42	34,88	——	108	10	58,20	
5	21	51	55,7	——	20	47	32,66	——	107	55	9 01	
7	21	53	54 6	——	20	57	26 11	——	107	22	4,86	
11	21	57	43 5	——	21	17	1,75	——	106	9	59 08	
12	21	58	39,2	——	21	21	54,02	——	105	50	49,63	
13	21	59	33,5	——	21	26	45,02	——	105	31	12,87	
15	22	1	18,8	——	21	36	23,79	——	104	50	38 67	
17	22	3	0,5	——	21	45	59,34	——	104	8	21,96	
19	22	4	39.9	——	21	55	31,65	——	103	24	30,87	
26	22	9	59.6	——	22	28	27,31	——	100	40	0,73	
August 13	0	24	39,7	——	9	51	31,40	——	75	35	46 22	
17	0	28	2,5	——	10	10	41,59	——	77	13	34,46	
20	0	30	24,3	——	10	24	53,40	——	78	32	45,56	
21	0	31		——	.....			——	78	59	47 08	
September 11	0	52	53 4	——	12	5	49.74	——	89	18	0,54	
24	0	52	10,2	——	13	4	41,95	——	95	56	45,22	
26	0	54	14,1	——	13	13	52,42	——	96	59	59,85	
27	0	54	47,7	——	13	18	25,41	——	97	26	55,75	
October 2	0	57	24,7	——	13	41	30.20	——	99	53	59 97	
8	1	1	51,2	——	14	9	37,16	——	102	42	49,05	
12	1	5	8,4	——	14	28	40,84	——	104	29	40 59	
13	1	6	0,5	——	14	33	29,53	——	104	55	35,06	
24	1	16	50,4	——	15	27	43,17	——	109	12	55 96	
25	1	17	56,9	——	15	32	46,23	——	109	33	35,33	
26	1	19	4,3	——	15	37	50,36	——	109	3	41,23	
27	1	20	13,3	——	15	42	56,33	——	110	13	15,54	
28	1	21	23,3	——	15	48	3,08	——	110	32	10,97	
29	1	22	34,0	——	15	53	10.49	——	110	50	35,90	
30	1	23	47,7	——	15	58	20,76	——	111	8	28.85	
31	1	25	1,2	——	16	3	30,85	——	111	25	48,14	
November 1	1	26	15 9	——	16	8	42,27	——	111	42	27,52	
3	1	28	49,3	——	16	19	9,33	——	112	14	2,98	
4	1	30	7,8	——	16	24	24.55	——	112	28	49,94	
5	1	31	26,7	——	16	29	40,52	——	112	43	2,71	
10	1	38	17.2	——	16	56	14 91	——	113	44	4,71	
12	1	41	7,4	——	17	6	58,81	——	114	3	44.97	
16	1	46	56,3	——	17	28	34 52	——	114	34	31,04	
17	1	48	21,7	——	17	33	59.99	——	114	40	21,93	
18	1	49	53,4	——	17	39	25,47	——	114	45	26,96	
19	1	51	22,6	——	17	44	52,43	——	114	49	48,88	

Apparent Right Ascension and North Polar Distance of VENUS, continued.

1832	Madras Mean Time of Observations			Point Observed.	A. R.			Point Observed	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
November 23	1	57	21,5	2 L.	18	6	37,81	Centre.	113	59	49,22	
24	1	58	52,0	——	18	12	4,88	——	115	0	23,97	
1833												
April 5	2	40	41,9	——	3	34	56,47	——	65	32	40,62	
6	2	39	47,3	——	3	37	28,85	——	65	20	14,56	
May 6	1	0	53,0	——	3	56	34,24	——	64	40	16,87	
8	0	49	28,0	——	3	53	1,02	——	65	7	36,20	
23	23	10	59,1	——	3	17	20,99	——	70	33	47,51	
24	23	5	11,1	——	3	15	28,34	——	70	55	35,03	
28	23			——	.....			——	72	16	53,49	
29	22			——	.....			——	72	35	20,34	
31	22	28	18,6	——	3	6	5,63	——	73	9	30,70	
July 15	20	53	2.8	——	4	27	59,61	——	72	5	50,59	
23	20	51	26,1	——	4	56	54,80	——	70	54	33,73	
25	20	51	26,1	——	5	5	47,88	——	70	30	43.62	
26	20	51	30,5	——	5	9	48,97	——	70	30	43,83	
28	20	51	43,7	——	5	17	55,18	——	70	16	6,49	
29	20	51	53,6	——	5	22	1,80	——	70	9	10.41	
August 2	20	52	54.1	——	5	38	48 48	——	69	44	38,79	
5	20	53	57,7	——	5	51	42 02	——	69	29	51 25	
7	20	54	50 0	——	6	0	26,75	——	69	21	57,74	
9	20	55	46.5	——	6	9	17,28	——	69	15	42,75	
13	20	57	57,7	——	6	27	15 11	——	69	8	29,89	
14	20	58	33,8	——	6	31	47,94	——	69	7	51.94	
15	20	59	10 6	——	6	36	20,56	——	69	7	41,23	
September 10	21	18	51 8	——	8	38	35,88	——	72	4	28,98	
11	21	19	39 8	——	8	43	20,68	——	72	19	22,06	
November 27	22	12	20,6	——	14	39	44,99	——	103	58	46,42	
December 2	22	17	13,8	——	15	4	21,49	——	105	54	50 40	
9	22	24	53,0	——	15	39	37,99	——	108	19	52,33	
11	22	27	15,2	——	15	49	53 52	——	106	57	5,48	
13	22	28	43,1	——	16	0	13.78	——	109	32	12,74	
17	22	34	51.1	——	16	21	7,64	——				
18	22	36	7,8	——	16	26	24,07	——	110	50	13,16	
25	22	45	51,23	——	17	3	44,45	——	112	13	59,69	
26	22	52	29,0	——	17	9	7,85	——	112	25	22,81	
30	22	50	24,9	——	17	30	47,82	——	112	56	4,43	

Apparent Right Ascension and North Polar Distance of MARS.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
January 29	21	16	53,0	Centre.	17	44	48,13	Cent e.	113	45	44,33	
February 3	21	13		——	.....			——	113	50	10 94	
4	21	12	5,0	——	18	9	19,85	——	113	50	25.00	
5	21	11	18,4	——	18	12	29,18	——	113	50	25 38	
6	21	10	30 4	——	18	15	38,43	——	113	50	4,07	
8	21	8	49 0	——	18	21	57,30	——	113	48	52,84	
22	20	58	3,9	——	19	6	14,40	——	113	13	45,41	

Apparent Right Ascension and North Polar Distance of MARS, continued.

1832		Madras Mean Time of Observations.			Point Observed	A. R.			Point Observed	N. P. D.			Remarks.
		h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
February	24	20	56	30 6	Centre.	19	12	33,82	Centre.	113	5	1,29	
	27	20	54	11,7	——	19	23	1,93	——	112	50	9.87	
	28	20	53	24,6	——	19	25	11,15	——	112	44	24.41	
	29	20	52	36 5	——	19	28	19,85	——	112	39	8,92	
March	1	20	51	46,6	——	19	31	28,85	——	112	33	17,45	
	2	20	50	59,1	——	19	34	37,43	——	112	27	15.86	
	3	20	50	11,1	——	19	37	45,86	——	112	20	58,68	
	4	20	49	23,2	——	19	40	54,33	——	112	14	28,83	
	5	20	48	34,6	——	19	44	2,45	——	112	7	41,32	
	6	20	47	46,0	——	19	47	10,19	——	112	0	44,30	
	7	20	46	57,0	——	19	50	17,52	——	111	53	35.82	
	11	20	43	43,3	——	20	2	45,78	——	111	22	41,71	
	12	20	42	50,1	——	20	5	52,49	——	111	14	29,56	
	13	20	41	59,9	——	20	8	58,72	——	111	6	1,33	
	15	20	40	18,7	——	20	15	10,20	——	110	48	33,21	
	19	20	36	52,8	——	20	27	30,12	——	110	11	10,93	
	20	20	36	0,3	——	20	30	34,26	——	110	1	22,99	
	27	20	29	46,8	——	20	51	55,48	——	108	47	2.00	
	31	20	26	5,8	——	21	3	59,97	——	108	0	43,41	
April	1	20	25	10 0	——	21	9	0,29	——	107	48	43 33	
	2	20	24	13,0	——	21	10	0,29	——	107	36	52,83	
	3	20	23	15,9	——	21	12	59,45	——	107	24	13 62	
	5	20	21	21,2	——	21	18	57,50	——	106	59	7,03	
	6	20	20	23,2	——	21	21	55,82	——	106	42	26.18	
	7	20	19	24,6	——	21	24	53,87	——	106	33	23,71	
	12	20	14	26,2	——	21	39	38,65	——	105	26	33.56	
	13	20	13	25,5	——	21	42	34,69	——	105	12	49,08	
	14	20	12	25.0	——	21	45	30,02	——	103	58	49 22	
	21	20	5	10,2	——	22	5	49.00	——	103	17	51,52	
	30	19	55	23,2	——	22	31	30,00	——	101	0	26,25	
May	1	19	54	16,4	——	22	34	19,19	——	100	44	46,00	
	2	19	53	8,6	——	22	37	8,03	——	100	28	58,97	
	4	19	50	53,0	——	22	42	45,21	——	99	57	12,45	
	5	19	49	45 7	——	22	45	33,97	——	99	41	7,02	
	12	19	41	44,8	——	23	5	2,24	——	97	47	15,69	
	14	19	39	17,5	——	23	10	33,11	——	97	14	20,65	
	15	19	38	10,6	——	23	13	18,19	——	96	57	45,87	
	16	19	36	58,1	——	23	16	2,83	——	96	41	11,49	
	31	19	18	28 4	——	23	56	42,76	——	92	30	43,90	
June	9	19	6	58 5	——	0	20	38,52	——	89	59	36,00	
	10	19	5	40.3	——	0	23	16 93	——	89	42	58,04	
	11	19	4	21,8	——	0	25	54,81	——	89	26	26,22	
	12	19	3	3.3	——	0	28	32,67	——	89	9	55.58	
	13	19	1	44.7	——	0	31	10,54	——	88	53	23,68	
	14	19	0	26.0	——	0	33	47,89	——	88	37	0.50	
	15	18	59	6,7	——	0	36	25,19	——	88	20	39,75	
	17	18	56	27,4	——	0	41	38,18	——	87	51	6,83	
	22	18	49	42,1	——	0	54	34,69	——	86	27	47,22	
November	9	12	44	40,3	——	4	0	30,87	——	68	58	16,56	
	15	12	11	47.2	——	3	51	11 51	——	.....			
	16	12	6	15,7	——	3	49	35,07	——	69	8	24.93	
	17	12	0	13,7	——	3	47	28 56	——	69	10	16,86	
	22	11	33	7,3	——	3	40	0,72	——	69	21	9,48	
	29	10	55	21.1	——	3	29	41,83	——	69	37	32,37	
	30	10	50	2,1	——	3	28	21,22	——	69	39	55,54	

Apparent Right Ascension and North Polar Distance of MARS, continued.

1832		Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
		h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
December	4	10	29	24,7	Centre.	3	23	26,32	Centre.	69	48	32,52	
	5	10	24	22,1	——	3	22	19,79	——	69	50	32,46	
	6	10	19	25,4	——	3	21	16,19	——	69	52	26,38	
	7	10	14	26,4	——	3	20	15,58	——	69	54	13,71	
	12	9	50	33,2	——	3	16	1,14	——	70	1	29,33	
	13	9	45	56,4	——	3	15	20,07	——	70	2	36,82	
	14	9	41	22 6	——	3	14	42,37	——	.....			
	15	9	36	52 7	——	3	14	8,21	——	70	4	16,50	
	16	9	31	25 8	——	3	13	37,59	——	70	4	53,18	
	17	9	28	2,4	——	3	13	10,02	——	70	5	23.91	
	18	9	23	43,9	——	3	12	46,30	——	70	5	41,99	
	20	9	15	14 0	——	3	0	9 63	——	70	5	51,22	
	21	9	11	4,4	——	3	11	55,05	——	70	5	38,49	
	22	9	6	58,5	——	3	11	44,72	——	70	5	21,76	
	24	8	58	56,0	——	3	11	34,27	——	70	4	12,34	
	25	8	54	59,8	——	3	11	33,84	——	70	3	21,52	
	26	8	51	6,4	——	3	11	36,93	——	.....			
	27	8	47	17,3	——	3	11	43,82	——	70	1	15,47	
1833													
January	3	8	21	55,3	——	3	13	53,40	——	69	48	46,01	
	4	8	18	29,7	——	3	14	23 77	——	69	46	23,58	
	6	8	11	36,2	——	3	15	32,14	——	69	41	14,46	
	8	8	5	13,4	——	3	16	51,16	——	69	35	34,79	
	9	8	2	0,8	——	3	17	34,74	——	69	32	33,75	
	10	7	58	50,8	——	3	18	20,72	——	69	29	22,98	
	11	7	55	33 2	——	3	19	9,19	——	69	26	9,69	
	14	7	47	22,3	——	3	22	47,53	——	69	15	48,36	
	15	7	43	36,2	——	3	22	46,07	——	69	12	7,58	
	16	7	40	39,5	——	3	23	45,24	——	69	8	21,62	
	17	7	37	45.6	——	3	24	47,60	——	69	4	33,05	
	18	7	34	55,0	——	3	25	53,42	——	69	0	37,68	
	19	7	32	4,7	——	3	26	59,25	——	68	56	37,30	
	20	7	29	16 6	——	3	28	7,41	——	68	52	33,07	
	21	7	26	31 5	——	3	29	18,26	——	68	48	23,36	
	22	7	23	48,0	——	3	31	1,96	——	68	44	9,72	
	23	7	21	6,9	——	3	31	45,70	——	68	39	54,05	
	24	7	18	27,4	——	3	33	2,06	——	68	35	33,48	
	25	7	15	48,6	——	3	34	19,89	——	.....			
	27	7	10	38.3	——	3	37	1,80	——	68	22	15,67	
	28	7	8	6 2	——	3	38	25 74	——	68	17	45,32	
	29	7	5	35,3	——	3	39	50,97	——	68	13	11,20	
	30	7	3	6,2	——	3	41	17,88	——	68	8	34,75	
	31	7	0	38 4	——	3	42	46,30	——	68	3	57,06	
February	1	6	58	12,0	——	3	44	16,10	——	67	59	17,90	
	2	6	55	48,1	——	3	45	48,49	——	67	54	40,23	
	4	6	51	3,7	——	3	48	56 47	——	67	45	17,33	
	5	6	48	44,3	——	3	50	33,10	——	67	40	36,12	
	6	6	46	25,3	——	3	52	10,38	——	67	35	54,32	
	8	6	41	52,6	——	3	55	28,75	——	67	26	32,32	
	9	6	39	37,6	——	3	57	11,35	——	67	21	52 31	
	10	6	37	24,9	——	3	58	54,05	——	67	17	12,03	
	11	6	34	12,1	——	3	59	37,96	——	67	12	33,89	

Apparent Right Ascension and North Polar Distance of MARS, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	*′*	*″*	
February 12	6	33	1,6	Centre.	4	2	23,97	Centre.	67	7	56,56	
13	6	30	52,3	——	4	4	10,84	——	67	3	19,87	
14	6	28	43,6	——	4	5	58,07	——	66	58	42,76	
15	6	26	36,6	——	4	7	47,23	——	66	54	9,21	
16	6	24	30,8	——	4	9	37,51	——	66	49	36,72	
17	6	22	26,0	——	4	11	29,21	——	66	45	6,48	
18	6	22	22,4	——	4	13	21,71	——	66	40	43,92	
24	.....			——	.....			——	66	14	56,56	
25	6	6	27,0	——	4	27	0,06	——	66	10	50,67	
26	.....			——	.....			——	66	6	47,32	
27	6	2	37,2	——	4	31	2,83	——	.....			
28	6	0	44,5	——	4	33	6,37	——	65	58	55,67	
March 1	5	58	50,9	——	4	35	8,99	——	65	55	6,03	
2	5	56	58,9	——	4	37	13,45	——	65	51	20,89	
3	5	55	8,0	——	4	39	18,88	——	65	47	40,23	
4	5	53	18,1	——	4	41	24,94	——	65	44	3.69	
6	5	49	40,2	——	4	45	40,64	——	65	37	7,87	
7	5	47	52,5	——	4	47	47,88	——	65	33	46,11	
8	5	46	5,7	——	4	49	57,05	——	65	30	32,11	
9	5	44	19,1	——	4	52	7,11	——	65	27	24,25	
10	5	42	33,5	——	4	54	17,97	——	65	24	18,16	

Observed North Polar Distance of the centre of the Planet Mars and of Stars culminating near to him, together with the Greenwich mean time at which the former passed the Meridian.

1832	Names.	Greenwich Mean Time.			N. P. D.			Remarks.
		h.	*m.*	*s.*	°	*′*	*″*	
November 9	A^1 Tauri.....	.....			68	26	24,3	
	♂	7	23	31,3	69	1	44,9	
	53 Tauri.....	.....			69	19	41,2	
	a Tauri.....	.....			73	53	29,1	
15	*b* Tauri.....	.....			69	11	34,5	
	♂	6	50	38,2	69	8	0,9	
	53 Tauri.....	.....			69	17	38,4	
	a Tauri.....	.....			73	51	24,1	
16	*b* Tauri.....	.....			69	11	34,5	
	♂	6	45	6,7	69	9	49,1	
	a Tauri.....	.....			73	51	24,7	
17	♂	6	39	4,7	69	11	41,8	
	A^1 Tauri.....	.....			68	24	23,8	
22	♂	6	11	58,3	69	22	24,2	
	b Tauri.....	.....			69	11	32,8	
	A^1 Tauri.....	.....			68	24	21,4	
	a Tauri.....	.....			73	51	24,8	
29	♂	5	34	12,1	69	38	56,2	
	a Tauri.....	.....			73	51	23,8	
30	65 Arietis.....	.....			69	49	15,4	
	♂	5	28	53,1	69	41	17,1	

1832		NAMES.	Greenwich Mean Time.			N. P. D.			REMARKS.
			h.	*m.*	*s.*	°	′	″	
December	4	65 Arietis.....	.....			69	52	40,8	
		♂	5	8	15,7	69	53	24,2	
		a Tauri.....	.....			73	54	52,1	
	5	♂	5	3	13,1	69	55	24,8	
		a Tauri.....	.....			73	54	51,9	
	6	65 Arietis.....	.....			69	52	40,9	
		♂	4	58	16,4	69	57	18,7	
		F^1 Tauri.....	.....			70	55	21,5	
		a Tauri.....	.....			73	54	53,2	
	7	65 Arietis	.....			69	50	44,4	
		♂	4	53	17,4	69	57	9,0	
		F^1 Tauri.....	.....			70	53	26,0	
		a Tauri.....	.....			73	52	55,4	
	12	♂	4	29	24,2	70	4	36,9	
		a Tauri.....	.....			73	53	8,2	
	13	38 Arietis.....	.....			70	9	12,6	
		♂	4	24	47,4	70	5	41,8	
		a Tauri.....	.....			73	53	8,1	
	15	38 Arietis.....	.....			70	10	34,1	
		♂	4	15	43,7	70	8	45,4	
		a Tauri.....	.....			73	54	28,9	
	16	38 Arietis.....	.....			70	10	34,0	
		♂	4	10	16,8	70	9	22,1	
		a Tauri	.....			73	54	29,8	
	17	♂	4	6	53,4	70	9	52,4	
		a Tauri.....	.....			73	54	29,3	
	18	38 Arietis.....	.....			70	10	36,2	
		♂	4	2	34,9	70	10	11,7	
		a Tauri.....	.....			73	54	30,8	
	20	♂	3	54	5,0	70	13	13,8	
		65 Arietis.....	.....			69	55	12,8	
		a Tauri.....	.....			73	57	22,1	
	21	♂	3	49	55,4	70	13	1,1	
		65 Arietis.....	.....			69	55	12,5	
		a Tauri.....	.....			73	57	22,4	
	22	♂	3	45	49,5	70	12	43,2	
		65 Arietis.....	.....			69	55	11,7	
		a Tauri.....	.....			73	57	22,2	
	24	♂	3	37	47,0	70	11	34,8	
		65 Arietis.....	.....			69	55	13,3	
		a Tauri.....	.....			73	57	22,6	
	25	♂	3	33	50,8	70	10	44,9	
		65 Arietis.....	.....			69	55	12,3	
		a Tauri.....	.....			73	57	24,3	

The above column *Greenwich Mean Time* is derived from the Madras Mean Time as computed from the observed Transit, by subtracting 5*h*. 21*m*. 9*s*. The column N. P. D. is copied from the Mural Circle Book without any correction whatever having been applied; in the observations it will be noticed that I have not followed the recommendation of Mr. HENDERSON, of observing the first and second limbs on alternate days, but have always bisected the centre of the Planet; my reason for thus deviating from a plan

which as far as it secures uniformity of results is a good one; arises from a conviction, that a perfect contact between the border of the Planet and edge of the wire can never be made to that degree of accuracy which a bisection of the body itself will permit; in support of this opinion I need only refer to the Solar observations made at Greenwich and at Madras, where it will be found, that the irregularity of the differences from the places given in the Nautical Almanac (the errors of observation in fact) are at least three times as large as those which are found in the observations of a fixed Star; added to which on the present occasion, were the limb of the planet observed the Star being observed with reference to the centre of the horizontal wire, and the Planet observed at the edge; we are obliged to know not only the thickness of the wire, but the semi-diameter of the Planet.

Not being possessed of any corresponding observation to the above, I am prevented from applying them to the determination of the parallax of Mars for which purpose it will be understood they have been made.

Apparent Right Ascension and North Polar Distance of JUPITER.

1832	Madras Mean Time of Observations.			Point Observed	A. R.			Point Observed.	N. P. D.			REMARKS.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
May	12	20	9	56,2	Centre.	23	33	18,31	Centre.	94	3	53,73	
	14	20	3	15,3	——	23	34	35,11	——	93	56	3,65	
	15	20	0	2,5	——	23	35	13,84	——	93	52	9 99	
	16	19	56	44,6	——	23	35	52,63	——	93	48	23,26	
	17	19	53	23,4	——	23	36	29,50	——	93	44	39,19	A. R. doubtful
	26	19	23	10,0	——	23	41	40,99	——	93	13	6,42	on account of the clock tripping.
	31	19	6	9,1	——	23	44	17,82	——	92	57	20,46	
June	9	18	34	57,0	——	23	48	31,73	——	92	32	38,03	
	10	18	31	26,1	——	23	48	57,16	——	92	30	10,45	
	11	18	27	54,9	——	23	49	21,92	——	92	27	44,33	
	12	18	24	23,2	——	23	49	46,29	——	92	25	26,93	
	13	18	20	51,0	1 & 2 L.	23	50	9,73	——	92	23	7,36	
	14	18	17	18,1	——	23	50	32,93	——	92	20	57,57	
	15	18	13	44,5	——	23	50	55,44	——	92	18	47,69	
	17	18	6	35,3	——	23	51	37,89	——	92	14	43,87	
September	22	11	29	38 6	——	23	36	11,54	——	94	18	33,43	
	24	11	21	0,1	——	23	35	14,73	——	94	24	43,76	
	25	11	16	34,2	——	23	34	45,20	——	94	27	49 27	
	26	11	12	10;1	——	23	34	16,79	——	94	30	49,93	
	27	11	7	46,2	——	23	33	48,74	——	94	33	49,45	
October	1	1	50	12,5	——	23	31	57,81	——	94	45	24,63	
	8	8	19	41.0	——	23	28	58,51	——	95	3	56,11	
	11	10	6	43,4	——	23	27	47,88	——	95	11	2,35	
	12	10	2	24,6	——	23	27	25,02	——	95	13	18 18	
	13	9	58	6,6	——	23	27	3,71	——	95	15	30,00	
	14	9	53	50,5	——	23	26	42,55	——	95	17	34,81	
	19	9	32	29,6	——	23	25	1,70	——	95	27	16,35	
	20	9	24	3,5	——	23	24	26,26	——	95	30	38,12	

Apparent Right Ascension and North Polar Distance of JUPITER, continued.

1832		Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
		h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
October	22	9	19	51,2	1 & 2 L	23	24	9,64	Centre.	95	32	14,52	
	23	9	15	38,9	——	23	23	53,42	——	95	33	44,23	
	24	9	11	27,2	——	23	23	37.76	——	95	35	10,50	
	25	9	5	17,1	——	23	23	22,88	——	95	36	31,15	
	26	9	3	6.6	——	23	23	8,67	——	95	37	47,32	
	27	8	58	57,2	——	23	22	55,21	——	95	39	1,56	
	28	8	54	48,8	——	23	22	42,98	——	95	40	6,05	
	29	8	50	40,1	——	23	22	30,25	——	95	41	9,42	
	30	8	51	33,1	——	23	22	18,93	——	95	42	8,01	
	31	8	42	27,0	——	23	22	8,66	——	95	42	56,62	
November	2	8	34	15,6	——	23	21	49,18	——	95	44	30,54	
	4	8	26	8,2	——	23	21	33,43	——	95	45	44,45	
	5	8	22	4,7	——	23	21	26,00	——	95	46	11,77	
	9	8	6	1,0	——	23	21	5,95	——	95	47	21,28	
	10	8	2	1,9	——	23	21	2,57	——	95	47	26,37	
	11	7	58	2,8	——	23	20	59,05	——	95	47	22 43	
	12	7	54	5.5	——	23	20	58,18	——	95	47	17,40	
	15	7	42	17,3	——	23	20	57,57	——	95	46	35,22	
	16	7	38	22,8	——	23	20	58,76	——	95	46	10,93	
	17	7	34	28,8	——	23	21	1,00	——	95	45	39,84	
	18	7	30	35,7	——	23	21	3,76	——	95	45	5,90	
	19	7	26	43,4	——	23	21	7,36	——	95	44	26,18	
	21	7	19	1,9	——	23	21	17,04	——	95	42	52,44	
	22	7	15	10,7	——	23	21	22,59	——	95	41	57,12	
	23	7	11	21,7	——	23	21	29,41	——	95	40	59,07	
	25	7	3	45,2	——	23	21	44,63	——	95	38	46,98	
	29	6	48	43,6	——	23	22	24,56	——	95	33	26,82	
	30	6	44	57,4	——	23	22	36 47	——	95	31	57,13	
December	4	6	30	7,9	——	23	23	30 81	——	95	25	1.89	
	6	6	22	49,2	——	23	24	1.80	——	95	21	8,76	
	7	6	19	7,6	——	23	24	18,46	——	95	17	6,02	
	9	6	11	51,2	——	23	24	53,83	——	.....			
	10	6	7	14,3	——	23	25	12,69	——	.....			
	11	6	4	55,0	——	23	25	31,72	——	.....			
	12	6	1	1,5	——	23	25	52,05	——	95	7	46 55	
	13	5	57	26,5	——	23	26	12,62	——	95	5	21,39	
	15	5	50	17,6	——	23	26	56 23	——	.....			
	16	5	46	44,0	——	23	27	18,51	——	94	57	30,16	
	17	5	43	10,9	——	23	27	41,17	——	94	54	48,01	
	19	5	36	6,7	——	23	28	30.21	——	94	49	5,28	
	20	5	32	37,1	——	23	28	55,47	——	94	46	8,84	
	24	5	18	39,2	——	23	30	41,45	——	94	33	44,57	
1833													
June	29	19	24	53,9	——	1	56	31,07	——	79	21	57,78	
July	8	18	54	35,3	——	2	1	36,25	——	78	56	1.54	
	12	18	40	54,1	——	2	3	39,19	——	78	45	49,80	
	13	18	37	27,9	——	2	4	8,39	——	78	43	45,08	
October	13	12	32	49 5	——	2	1	13 44	——	79	16	34.40	
	14	12	28	23,3	——	2	0	43,38	——	79	18	14,36	
	15	12	23	57,1	——	2	0	13,11	——	79	21	57.69	
	20	12	1	44.4	——	1	57	39,19	——	79	35	44 94	
	22	11	52	51,6	——	1	56	38 07	——	79	41	17,73	
	23	11	49	25,0	——	1	56	7,13	——	79	44	4,86	

Apparent Right Ascension and North Polar Distance of JUPITER, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
November 9	10	33	7,1	1 & 2 L.	1	47	38,66	Centre.	80	28	56,43	
17	9	58	12,3	——	1	44	9,94	——	80	46	46,91	
19	9	49	33,5	——	1	43	23,55	——	80	50	44,95	
20	9	45	14,7	——	1	42	59,88	——	80	52	38,59	
21	9	40	57,8	——	1	42	37,39	——	80	54	29,33	
22	8	57	45,0	——	1	42	16,28	——	80	56	15,75	
23	9	42	20,9	——	1	41	55,81	——	80	58	0,16	
December 2	8	54	21,0	——	1	39	17,11	——	81	10	32.54	
4	8	46	2,0	——	1	38	49,37	——	81	12	32 33	
5	8	41	53,0	——	1	38	36,73	——	81	13	26,92	
6	8	37	45,0	——	1	38	25,00	——	81	14	16,56	
7	8	33	37,9	——	1	38	13,63	——	81	14	58,46	
8	8	29	31,3	——	1	38	2,92	——	81	15	44,94	
10	8	21	20,3	——	1	37	43,55	——	81	16	54,00	
11	8	17	17,2	——	1	37	36,20	——	81	17	19,46	
14	8	5	9,5	——	1	37	16,15	——	81	18	17,27	
18	8	48	59,8	——	1	37	0,14	——	81	18	29,20	
19	8	45	0,0	——	1	36	58,43	——	81	18	19,59	
20	7	41	8,2	——	1	36	57,17	——	81	18	7,87	
22	7	33	23,0	——	1	36	56,91	——	81	17	27,78	
24	7	25	34,3	——	1	37	0,17	——	81	16	25,27	
25	7	21	42,6	——	1	37	2,79	——	81	15	54,75	
26	7	17	48,7	——	1	37	6,33	——	81	15	11,25	
27	7	13	57,2	——	1	37	10,68	——	81	14	28,13	
29	7	6	16.8	——	1	37	22,24	——	81	12	44,07	
30	7	2	27,4	——	1	37	28,69	——	81	11	46,17	
31	6	58	38,2	——	1	37	35,57	——	81	10	43,87	

Apparent Right Ascension and North Polar Distance of SATURN.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
March 11	11	35	20,2	Centre.	10	52	52,83	Centre.	80	33	27,52	
13	11	26	48,5	——	10	52	20,29	——	80	29	51,50	
14	11	22	35,2	——	10	52	3,52	——	80	31	5,77	
15	11	18	21,9	——	10	51	45,65	——	80	26	21,03	
16	11	14	8,8	——	10	51	28,43	——	80	24	39,11	
17	11	9	58,1	——	10	51	19,76	——	80	22	55,55	
19	11	1	34,4	——	10	50	37,00	——	80	18	36,33	
22	10	48	56,5	——	10	49	47,96	——	80	14	43,98	
23	10	44	45,7	——	10	49	32,35	——	80	13	10,25	
24	10	40	34,2	——	10	49	16,44	——	80	11	36,80	
25	10	36	20,1	——	10	48	58,05	——	80	13	6,04	
26	10	32	12,6	——	10	48	46,66	——	80	11	34.29	
27	10	28	0.9	——	10	48	30,49	——	80	10	7,38	
28	10	23	50,3	——	10	48	15,61	——	80	5	40,10	
29	10	19	39,6	——	10	48	1,20	——	80	7	14,92	
30	10	15	29,7	——	10	47	46.87	——	80	2	51,79	
31	10	11	19,6	——	10	47	32,65	——	80	4	30,35	
April 1	10	7	9,8	——	10	47	19,07	——	80	3	10,58	

Apparent Right Ascension and North Polar Distance of SATURN, continued.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
April 2	10	3	0,1	Centre.	10	47	5,63	Centre.	79	58	53,48	
3	9	58	51,0	——	10	46	52,25	——	79	57	37,66	
4	9	54	42,0	——	10	46	39,17	——	79	56	23,73	
5	9	50	33,4	——	10	46	26,11	——	79	59	11,21	
6	9	46	22 2	——	10	46	14,65	——	79	53	59,27	
7	9	42	14,0	——	10	46	2,28	——	79	52	49,80	
10	9	29	57,1	——	10	45	26,57	——	79	49	40.63	
11	9	25	50,4	——	10	45	15,43	——	79	48	41,22	
12	9	21	43,2	——	10	45	5,41	——	79	47	46,32	
13	9	17	36,4	——	10	44	54,62	——	79	46	47,07	
14	9	13	31,3	——	10	44	44,69	——	79	45	57,15	
21	8	44	57,9	——	10	43	45,37	——	79	40	59,29	
22	8	40	55,0	——	10	43	38,28	——	79	40	10,07	
23	8	36	51,6	——	10	43	30,94	——	79	39	39,71	
24	8	32	50,3	——	10	43	24,65	——	79	39	7,80	
26	8	24	45,8	——	10	43	12,87	——	79	41	15,24	
27	8	20	45,1	——	10	43	8,00	——	79	37	52,42	
28	8	16	43,8	——	10	43	2,72	——	79	37	30,17	
29	8	12	43,5	——	10	42	57,93	——	79	40	12,44	
30	8	8	43,0	——	10	42	53,89	——	79	36	56,94	
May 3	7	56	45,2	——	10	42	44,18	——	79	36	21,44	
4	7	52	46,4	——	10	42	40,77	——	79	36	15,84	
5	7	48	48,3	——	10	42	38,29	——	79	36	10,51	
6	7	44	51,6	——	10	42	37,21	——	79	36	9,91	
9	7	32	58,6	——	10	42	32,54	——	79	36	16,21	
11	7	25	7,7	——	10	42	32,49	——	79	36	37,56	
12	7	21	11,9	——	10	42	33,02	——	79	36	51,24	
14	7	13	22,0	——	10	42	35,52	——	79	38	22,64	
15	7	9	29,0	——	10	42	37,58	——	79	37	44,25	
16	7	5	34,9	——	10	42	39,66	——	79	38	3,25	
17	7	1	40,9	——	10	42	41,54	——	79	38	30,48	
18	6	57	40,5	——	10	42	44,22	——	79	37	58,29	
19	6	53	59,9	——	10	42	47,63	——	79	37	38,03	
20	6	50	2,5	——	10	42	51,12	——	79	38	23,53	
21	6	46	11,0	——	10	42	55,04	——	79	38	4,08	
1833												
March 13	12	20	21,0	——	11	45	0,35	——	85	41	0,10	
14	12	16	8,2	——	11	44	43,28	——	85	39	2,11	
15	12	11	55,5	——	11	44	25,98	——	85	37	7,20	
16	12	6	36,9	——	11	44	8,40	——	85	——	——	
17	11	46	13,7	——	11	43	51,23	——	85	34	16,29	
18	11	59	15,0	——	11	43	33,92	——	85	32	22,88	
19	11	55	1,9	——	11	43	16,12	——	85	29	27.80	
20	11	50	49,1	——	11	42	59,21	——	85	32	34,91	
21	11	46	36,0	——	11	42	42,67	——	85	25	42,49	
22	11	42	22,5	——	11	42	24,82	——	85	23	49,48	
23	11	38	10,0	——	11	42	7,79	——	85	21	58,76	
25	11	30	4.3	——	11	41	33,83	——	85	18	28,02	
26	11	26	1,5	——	11	41	16,84	——	85	16	29,47	
27	11	21	19,1	——	11	41	0,03	——	85	15	2,05	
28	11	17	6,4	——	11	40	43,43	——	85	12	55,52	
29	11	12	53,9	——	11	40	26,87	——	85	12	19,74	
30	11	8	41,3	——	11	40	10,33	——	85	10	24,34	

Apparent Right Ascension and North Polar Distance of SATURN, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
March 31	11	4	29,3	Centre.	11	39	54,08	Centre.	85	7	42,32	
April 1	11	0	17,4	——	11	39	37,96	——	85	5	59 58	
2	10	56	5,4	——	11	39	21,77	——	85	4	20,82	
3	10	51	53,9	——	11	39	6,05	——	85	2	43,02	
4	10	47	42,8	——	11	38	50,24	——	85	1	3,98	
5	10	43	0,5	——	11	38	34,94	——	84	59	27,56	
6	10	39	19,2	——	11	38	19,41	——	84	57	51,95	
8	10	30	57,7	——	11	37	49,27	——	84	54	48 01	
13	10	10	5,8	——	11	36	37,73	——	84	47	34 64	
14	10	5	57,3	——	11	36	24,07	——	84	46	10,71	
16	9	57	37,5	——	11	35	57,54	——	84	43	35,03	
17	9	53	29,9	——	.....			——	84	42	18,90	
18	9	49	21,8	——	11	35	31,79	——	84	41	4 37	
19	9	45	13 9	——	11	35	19,44	——	84	39	52,45	
20	9	41	5 1	——	11	35	7,43	——	84	38	43,25	
21	9	36	57,3	——	11	34	56 10	——	84	37	35,95	
22	9	32	50,6	——	11	34	44,24	——	84	36	30,84	
23	9	28	43.4	——	11	34	33,12	——	84	35	23,50	
24	9	24	36,7	——	11	34	22,38	——	84	34	24,27	
25	9	20	30,1	——	11	34	11,54	——	84	33	25,11	
26	9	16	24,4	——	11	34	1,29	——	84	32	23.30	
27	9	12	18,5	——	11	33	51,44	——	84	31	34,79	
30	9	0	2,6	——	11	33	23,56	——	84	29	4,42	
May 2	8	51	53,8	——	11	33	6,41	——	84	27	37,53	
4	8	43	46,5	——	11	32	50,86	——	84	26	19,12	

Apparent Right Ascension and North Polar Distance of GEORGIAN.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
August 28	10	46	17,5	Centre.	21	13	59,93	Centre.	.....			
September 11	9	49	21,2	——	21	12	5,52	——	106	56	35,05	
15	9	33	9 2	——	21	11	36,96	——	106	58	35,27	
19	9	16	58,9	——	21	11	10,92	——	107	0	30,44	
22	9	4	52,9	——	21	10	52,09	——	107	1	49,43	
24	8	56	49,5	——	21	10	40,55	——	107	2	37,12	
25	8	52	47,60	——	21	10	35,00	——	107	3	58,84	
27	8	44	45,1	——	21	10	24,67	——	107	4	42 97	
30	8	32	45,1	——	21	10	9,64	——	107	5	41,68	
October 7	8	4	43,1	——	21	9	42 03	——	107	6	31 43	
12	7	44	49 4	——	21	9	27 56	——	107	7	27,56	
14	7	36	53 4	——	21	9	23,13	——	107	7	44 56	
23	7	1	20,0	——	21	9	12,68	——	107	8	11,40	
26	6	49	38,2	——	21	9	12,84	——	107	8	2 81	
27	6	45	47 0	——	21	9	13,50	——	107	7	59,45	
28	6	41	41,8	——	21	9	14,50	——	107	7	53,53	
29	6	37	46 6	——	21	9	14 89	——	107	7	54,04	
November 3	6	18	14,7	——	21	9	22 34	——	107	7	8 15	
5	6	10	27,1	——	21	9	26,78	——	107	6	41 98	
9	5	54	54,8	——	21	9	28,34	——	107	6	45,54	
10	5	51	2,0	——	21	9	41,18	——	107	5	28,52	

Apparent Right Ascension and North Polar Distance of GEORGIAN, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			Remarks.
	h.	*m.*	*s.*		*h.*	*m.*	*s.*		°	′	″	
August 29	10	59	44,0	Centre.	21	30	27,07	Centre.	105	33	18,40	
September 10	10	11	12,0	——	21	29	6,47	——	105	39	19,19	
11	10	7	15,7	——	21	29	6,64	——	105	39	18,15	
13	9	59	39,4	——	21	28	22,06	——	105	43	4,55	
15	9	50	33,1	——	21	28	7,17	——	105	44	15,11	
17	9	42	26,7	——	21	27	52,50	——	105	45	22,28	
18	9	38	23,9	——	21	27	45,60	——	105	45	53,94	
20	9	29	18,1	——	21	26	31,45	——	105	46	56,33	
21	9	26	16,4	——	21	27	24,73	——	105	47	26,87	
30	8	50	2,2	——	21	26	31,11	——	105	51	27,09	
October 2	8	41	57,3	——	21	26	21,24	——	105	57	11,77	
4	8	33	55,9	——	21	26	11,53	——	105	52	54,58	
6	8	25	54,0	——	21	26	2,71	——	105	53	31,95	
7	8	21	55,4	——	21	25	58,05	——	105	53	50,75	
14	7	53	58,9	——	21	25	33,95	——	105	55	32,83	
15	7	50	0,1	——	21	25	31,09	——	105	55	42,86	
16	7	46	2,4	——	21	25	29,00	——	105	55	52,95	
17	7	42	3 6	——	21	25	26,57	——	105	56	4,40	
22	7	22	6,9	——	21	25	17,70	——	105	56	33,83	
25	7	10	23,5	——	21	25	14,55	——	105	56	42,10	

Apparent Right Ascension and North Polar Distance of PALLAS.

1832	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables		Error of Tables.	N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″
Sept. 24	11	27	39,3	23	41	55,03	41	53,59	— 1,44	95	59	12,82	58	30,9	— 41,9
25	11	22	58,5	23	41	10,03	41	8,34	— 1,69	96	13	23,18	12	46,4	— 36,8
Oct. 1	10	54	58,7	23	36	44,78	36	43,60	— 1,18	97	37	2,49	36	24,9	— 37,6

Apparent Right Ascension and North Polar Distance of CERES.

1832	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables.		Error of Tables.	N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*m.*	*s.*	*s.*	°	′	″	′	″	″
Oct. 23	12	38	8,6	2	46	56,33	46	56,75	+ 0,42	85	40	57,96	40	59,1	+ 1,1
24	12	33	20,5	2	46	4,14	46	4,63	+ 0,49	85	43	22,87	43	24,2	+ 1,3
25	12	26	32,8	2	45	11,56	45	11,93	+ 0,37	85	45	42,61	45	46,5	+ 3,9
26	12	23	43 2	2	44	18,26	44	18,77	+ 0,51	85	48	0,05	48	2,9	+ 2,9
27	12	19	33,8	2	43	24,68	43	25,09	+ 0,41	85	50	14,13	50	15,9	+ 1,8
29	12	13	13,1	2	41	36,06	41	36,57	+ 0,51	85	54	25,12	54	28,2	+ 3,1
30	12	4	23,1	2	40	41 24	40	41,86	+ 0,62	85	56	22,07	56	27,0	+ 4,9
31	11	59	32,6	2	39	46,26	39	46,93	+ 0,67	85	58	15,91	58	20,5	+ 4,6
Nov. 1	11	54	42,9	2	38	51,43	38	51,78	+ 0,35	86	0	4,15	0	8,8	+ 4,7
2	11	49	50,4	2	37	56,16	37	56,54	+ 0,38	86	1	46,09	1	51,5	+ 5,4
3	11	44	59,9	2	37	0,78	37	1,26	+ 0,48	86	3	24,61	3	28,1	+ 3,5

Apparent Right Ascension and North Polar Distance of CERES, continued.

1832	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables.		Error of Tables.		N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.	
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*m.*	*s.*		*s.*	°	′	″	′	″		″
Nov. 4	11	40	8,8	2	36	5,51	36	5 99	+	0,48	86	4	55,89	4	58,7	+	2,8
5	11	35	17 5	2	35	10,31	35	10 82	+	0,51	86	6	19,18	6	22 9	+	4,7
12	11	0	28,9	2	28	50,76	28	51,26	+	0,50	86	12	55,68	13	1,3	+	5,6

Apparent Right Ascension and North Polar Distance of JUNO.

1833	Madras Mean Time of Observations			A. R. from Observation.			A. R. from Tables.		Error of Tables.		N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.	
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*m.*	*s.*		*s.*	°	′	″	′	″		″
April 27	12	57		15	20		19	59,74		.....	92	47	19,53	48	17,4	—	2,1
28	12	53	10,5	15	19	16,68	19	13,73	—	2,95	92	42	27,03	42	26,7	—	0.3
29	12	48	28,1	15	18	29,99	18	27,29	—	2,70	92	36	39,82	36	40,4	+	0,6
May 2	12	34	18,7	15	16	9,87	16	6,17	—	3,70	92	19	52,96	19	49,3	—	3,7
8	12	5	56,4	15	11	20,33	11	17,24	—	3,09	.....			.....			.....
9	12	1	12,1	15	10	31,45	10	28,68	—	2,77	.....			.....			.....
10	11	56	27,6	15	9	43,39	9	40,14	—	3,25	92	39	4,85	38	57,8	—	7,0
11	11	51	42,9	15	8	54,28	8	51,65	—	2,63	92	34	27,85	34	20,6	—	7,2
12	11	46	59,8	15	8	6,82	8	3,26	—	3,56	.....			.....			.....
13	11	42	15,8	15	7	18,38	7	15,03	—	3,35	.....			.....			.....

In consequence of the extreme faintness of JUNO; in making the above observations it was found necessary to exclude all the light from the field, and even then, it was seen with the greatest difficulty; from this circumstance the transits which in general could only be observed at one or two wires are less accurate than the observations of the other Planets.

Apparent Right Ascension and North Polar Distance of VESTA.

1833	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables.		Error of Tables.		N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.	
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*m.*	*s.*		*s.*	°	′	″	′	″		′
July 7	11	58		19			0	36,97		.....	113	0	59,64	0	25,0		.....
8	11	53	42,3	18	59	34,28	59	36,39	+	2,11	.....			.....			.....

The prevalence of clouds and rain prevented further observation of VESTA.

The places with which the observations of the above four Planets are compared are interpolated from the Supplements to the Nautical Almanac which are "deduced from the Berliner Astronomisches Jahrbuck for 1833,

page 109": not having a copy of this work or indeed any tables of the Planetary Motions, has prevented my offering a similar comparison of the places of the larger Planets.

In the next place we come to the observations of the MOON, before giving which, it will be proper to state the elements which have been employed in the reduction of the observation ; they are as follows.

Ratio of Polar and Equatoreal Axes.....	299 : 300
From which we find the *Angle of the Vertical*....	5′ 0″
And the radius of the Earth.....	,999825
Semi-diameter.....	Computed from the
Parallax.....	Nautical Almanac.

In addition to the above it is necessary I should here state, that the column *mean time* which now follows, is for the instant of the first limb, centre, or second limb, transiting the meridian as the case may be ; at which instant, the Right Ascension of the Moon's *centre* (computed from the observation) is given, and compared with the interpolated place from the Nautical Almanac: Now the observed N.P.D. being necessarily due to the moment of the Moon's *centre* being on the meridian, will correspond to a mean time greater or less than the above according to the circumstance of the first or second limb having been observed ; to obviate the inconvenience which would thus result, I have applied to the reduced North Polar Distance the change of declination due to the interval occupied by the Moon's semi-diameter to pass the Meridian, or in other words the Declination here given is reduced to correspond with the mean time at which the Transit was observed.

Comparison of the observed Right Ascension and North Polar Distance of the Moon with the interpolated place from Nautical Almanac.

1832	Madras Mean Time.	Limb Observed.	Observed A. R. of ☽'s Centre.	A.R. from Nautical Almanac.	Error of Tables.	Limb Observed.	Observed N. P. D. of ☽'s Centre.	N.P.D. from Nautical Almanac.	Error of Tables.
	h ′ ″		° ′ ″	′ ″	″		° ′ ″	′ ″	″
Jan. 13	8 9 54,88	1	54 51 5,4	51 9,7	+ 4,3	S.	14 16 36,0 N.	16 28,1	— 7,9
14	9 7 43,36	1	70 19 44,6	19 47,3	+ 2,7	S.	17 33 49,2 N.	33 46,3	— 2,9
15	10 8 52,03	1	86 38 58,0	38 57,2	— 0,8	S.	19 39 53,6 N.	39 1,4	+ 7,8
17	12 17 27,85	1	120 16 23,4	16 18,9	— 4,5	S.	19 14 9,2 N.	14 9,3	+ 0,1
25	19 0 41,99	2	229 17 7,5	17 5,3	— 2,2	N.	12 47 5,3 S.	46 49,5	— 15,8
Feb. 9	6 2 23 08	1	49 29 11 4	29 1,9	— 9,5	S.	12 49 55,9 N.	50 1,5	+ 5,6
10	6 56 35.32	1	64 4 3,6	4 0,9	— 2.7	S.	16 21 22,7 N.	21 26,2	+ 3,5
11	7 53 58,74	1	79 26 50,9	26 48,2	— 2,7	S.	18 53 26,2 N.	53 34,9	+ 8,7

1832		Madras Mean Time.	Limb Observed.	Observed A. R. of ☽'s Centre.	A.R. from Nautical Almanac.	Error of Tables.	Limb Observed.	Observed N. P. D. of ☽'s Centre.	N.P.D. from Nautical Almanac.	Error of Tables.
		h ′ ″		° ′ ″	′ ″	″		° ′ ″	′ ″	″
Feb.	12	8 54 1,91	1	95 28 50,9	28 51,8	+ 0,9	N.	20 9 22,1	N. 9 23,1	+ 1,0
	13	9 55 15,85	1	111 49 43,7	49 41,5	— 2,2	N.	19 55 53,1	N. 55 59,1	+ 6,0
	14	10 56 3,82	1	128 2 34,7	2 40,8	+ 6,1	N.	18 4 6,4	N. 14 2,5	— 3,9
	15	11 54 44,54	1	143 43 59,9	43 53,4	— 6,5	N.	15 13 55,5	N. 13 57,5	+ 2,0
	21	16 54 19,95	2	224 13 46,0	13 40,1	— 5,9	S.	11 21 12,0	S. 21 23,6	+ 11,6
	23	18 26 24,47	2	249 16 11 3	16 5,9	— 5,4	....	.....	.....	.....
March	11	7 44 35,02	1	150 40 46,2	40 39,0	— 7,2	N.	20 17 1,3	N. 17 0,0	— 1,3
	12	8 43 37,68	1	121 27 44,3	27 45,1	+ 0,8	N.	19 11 21,3	N. 11 10,5	— 10,8
	13	9 41 17,42	1	136 54 54,4	54 42,1	— 12,3	N.	16 44 39,5	N. 44 40,3	+ 0,8
	14	10 36 52,21	1	151 48 42,8	48 27,7	— 15,1	N.	13 13 26,4	N. 13 29,3	+ 2,9
	15	11 29 45,20	1	166 3 55,1	3 42,6	— 12,3	N.	8 55 27,4	N. 55 35,9	+ 8,5
	16	12 21 24,53	2	179 43 48,4	43 39,9	— 8,5	N.	4 10 36,0	N. 10 58,1	.....
	17	13 11 12,20	2	192 55 14,3	55 7,8	— 6,5	S.	0 41 28,4	S. 41 26,6	— 1,8
	18	13 58 34,22	2	205 46 52 6	46 48,3	— 4 3	S.	5 23 37,0	S. 23 27,7	— 9,3
	20	15 31 51,40	2	231 8 25,1	8 9,4	— 15,7	S.	13 28 4,5	S. 28 4,2	— 0,3
	21	16 18 40,95	2	243 51 40,6	51 36,2	— 4,4	S.	16 30 44,0	S. 30 43,9	— 0.1
	22	17 5 57,93	2	256 41 54,8	41 45,6	— 9,2	S.	18 44 6,7	S. 44 9.4	+ 2,7
	23	17 53 42,89	2	269 39 16,8	39 1,0	— 15,8	N.	20 3 26 3	S. 3 29,1	+ 2 8
April	8	6 38 13,39	1	116 38 8,4	37 53.8	— 14,6	N.	19 51 51,7	N. 51 52,3	+ 0,6
	9	7 35 21,48	1	131 56 34,9	56 22,6	— 12,3	N.	17 51 2,4	N. 51 1,1	— 1,3
	10	8 30 14,36	1	146 40 54,5	40 52,5	— 2,0	N.	14 42 37,5	N. 42 39,5	+ 2,0
	11	9 22 35,91	1	160 47 17,6	47 23,2	+ 5,6	N.	10 43 27.0	N. 43 13,7	— 13,3
	12	10 12 44,04	1	174 19 31,0	19 27,3	— 3,7	N.	6 10 49,0	N. 10 34,2	— 14,8
	13	11 1 1,90	1	187 24 54,8	24 49,7	— 5,1	N.	1 22 13,6	N. 22 14,1	+ 0.5
	14	11 48 11,76	1	200 13 9,3	13 5,8	— 3,5	N.	3 25 30,3	S. 25 26,3	— 4,0
	15	12 36 56,17	2	212 54 50,5	54 40,0	— 10,5	N.	7 58 9,5	S. 58 14,5	+ 5,0
	17	14 10 36,68	2	238 21 23,5	21 16,9	— 6,6	S.	15 28 17,3	S. 28 16,5	— 0,8
	18	14 58 6,34	2	251 15 20,2	15 11,1	— 9,1	N.	18 6 26,4	N. 6 30,8	+ 4,+
	21	17 22 35,64	....	.....	.....	.....	N.	20 26 15,7	N. 26 19,5	+ 3,8
May	6	5 31 15,92	1	127 26 57,1	26 42,0	— 15,1	N.	18 50 3,9	N. 49 57.3	— 6,6
	8	7 19 59,49	1	156 39 49,6	39 51,0	+ 1,4	N.	12 12 31,4	N. 12 30,4	— 1,0
	9	8 10 1,81	1	170 11 18,6	11 11,1	+ 7,4	N.	7 49 22,0	N. 49 25,6	+ 3,6
	11	9 44 27,20	1	195 48 7,9	48 8,3	+ 0,4	N.	1 40 12,1	S. 40 10,9	— 1,2
	12	10 30 19,38	1	208 16 58,4	16 54,6	— 3,8	N.	6 18 18,3	S. 18 27,3	+ 9,0
	13	11 16 8,06	1	220 46 14,8	46 7,8	— 7,0	N.	10 34 22,7	S. 34 31,5	+ 8,8
	14	12 4 43,90	2	233 24 12,5	24 12,8	+ 0,3	N.	14 17 45,6	S. 17 49,7	+ 4,1
June	6	6 56 40,80	1	179 23 27,8	23 23,6	— 4,2	N.	4 44 18,6	N. 44 22,2	+ 3,6
	7	7 43 22,86	1	192 4 52,9	4 41,7	— 11,2	N.	0 4 7,4	S. 4 4,4	— 3,0
	9	9 14 8,88	1	216 48 10,2	47 58,5	— 11,7	N.	9 9 29,0	S. 9 30,7	+ 1,7
	10	9 59 38,65	1	229 12 46,9	12 34,4	— 12,5	N.	13 4 3,6	S. 4 14,4	+ 10,8
	12	11 33 15,34	1	254 39 15,0	39 11,9	— 3,1	N.	18 49 5,6	S. 49 4,6	— 1,0
Sept.	4	7 46 34,61	1	280 36 37,7	36 34,6	— 3,1	N.	21 3 35,0	S. 2 38,7	+ 3,7
	5	8 34 52,01	1	293 42 3,5	41 58,9	— 4,6	S.	20 40 59,1	S. 40 56,5	— 2,6
Oct.	2	6 28 23,29	1	288 36 34,2	26 26,5	— 7,7	S.	21 8 56,7	S. 8 53,1	— 3,6
	3	7 16 28,68	1	301 38 51,0	38 41,9	— 9,1	S.	20 8 54,0	S. 8 56,4	+ 2,4
	4	8 3 45,03	1	314 28 55,3	28 50,3	— 5,0	S.	18 11 54,1	S. 11 57,8	+ 3,7
	5	8 50 7,70	1	327 5 32,0	5 36,2	+ 4,2	S.	15 23 16,1	S. 23 20,4	+ 4,3
	8	11 6 7,05	1	4 8 22,8	8 24,1	+ 1,3	N.	3 2 53,7	S. 2 56,8	+ 3,1
	9	11 53 2,61	1	16 37 53,7	37 57,2	+ 3,5	S.	1 49 10,0	N. 49 0.3	— 9,7
	30	5 9 10,25	1	296 20 50,3	20 47,3	— 3,0	S.	20 56 36,3	S. 56 38,9	+ 2,6
	31	5 56 48,32	1	309 16 19,1	16 8,0	— 11,1	S.	19 22 17,1	S. 22 18,7	+ 1,6
Nov.	1	6 43 17,08	1	321 54 26.4	54 18,3	— 8,1	S.	16 54 5,0	S. 54 10,5	+ 5,5
	2	7 28 45,14	1	334 17 32,9	17 17,1	— 15,8	S.	13 38 49,6	S. 38 54 8	+ 5,2
	3	8 13 34,75	1	346 30 36,1	30 31,6	— 4,5	S.	9 43 34,7	S. 43 40,6	+ 5,9
	4	8 58 17,87	1	358 42 20,1	42 20.4	+ 0,3	S.	5 16 35,9	S. 16 40,9	+ 5,0

1832	Madras Mean Time.	Limb Observed.	Observed A. R. of ☽'s Centre.	A.R. from Nautical Almanac.	Error of Tables.	Limb Observed.	Observed N. P. D. of ☽'s Centre.	N.P.D. from Nautical Almanac.	Error of Tables.
	h ′ ″		° ′ ″	′ ″	″		° ′ ″	′ ″	″
Nov. 5	9 43 36,42	1	11 3 9,9	3 16,7	+ 6,8	S.	0 27 37,2 S.	27 42,8	+ 5,6
15	18 55 3,76	1	158 37 12,1	37 26,6	+ 14,5	S.	12 26 49,2 N.	27 1.8	+ 12,6
29	5 22 33,19	1	329 15 15,9	15 13,4	— 2,5	S.	15 19 19,3 S.	19 9.7	— 9,6
30	6 6 54.87	1	341 22 7,4	21 54,5	— 12,9	S.	11 42 20,6 S.	42 21,1	+ 0,5
Dec. 3	8 19 46,89	1	17 37 39,0	37 36,5	— 2,5	....	.....	57 43 3	.....
4	9 6 44,74	1	30 24 2,7	24 3.7	+ 1.0	S.	6 54 52,6 N.	54 55,5	+ 2,9
5	9 56 50,67	1	43 54 45,6	54 50,3	+ 4,7	N.	11 40 46,3 N.	40 37.9	— 8,4
6	10 50 20.19	1	58 20 48,8	20 50,5	+ 1,7	S.	15 55 24,2 N.	55 24.2	0.0
7	11 49 1,58	1	73 46 33,9	46 25,7	— 8,2	S.	19 15 23,6 N.	15 14,5	— 9,1
1833									
Jan. 4	10 27 12,12	1	81 9 16,5	9 15,9	— 0,6	N.	20 20 47,4 N.	20 56,8	+ 9,4
5	11 29 34,33	1	97 46 50,5	46 53,5	+ 3,0	S.	21 42 31,8 N.	42 26.4	— 5,4
13	18 52 56,4	2	216 15 8,5	14 56,9	— 11,6	S.	8 55 39,3 S.	55 39,0	— 0,3
29	6 23 36,52	1	44 42 11,9	42 8,9	— 3,0	S.	11 50 58,9 N.	50 59,4	+ 0,5
30	7 14 5,89	1	58 21 20 0	21 21,4	+ 1,4	S.	15 52 6,2 N.	51 50,8	— 15,4
31	8 8 45,45	1	73 2 59.5	3 6.2	+ 6,7	S.	19 6 17,3 N.	6 18,7	+ 1,4
Feb. 1	9 7 36,91	1	88 48 6,3	48 11,3	+ 5,0	N.	21 11 23,6 N.	11 24,0	+ 0,4
4	12 17 6,65	1	138 58 12,0	58 16,4	+ 4,4	N.	17 56 40,9 N.	56 30,8	— 10,1
27	5 59 10 97	1	67 10 34,3	10 28,4	— 5,9	S.	18 6 25,5 N.	6 24,8	— 0,7
28	6 54 14 87	1	81 58 18,1	58 14,9	— 3,2	S.	20 36 15,5 N.	36 20,4	+ 4,9
March 1	7 52 42,65	1	97 37 20,3	37 22,7	+ 2,4	S.	21 49 56,7 N.	49 55,1	— 1,6
2	8 53 30,94	1	113 51 13,1	51 20,1	+ 7,0	N.	21 32 32,4 N.	32 31,1	— 1,3
3	9 54 57,03	1	130 14 21,5	14 24,9	+ 3,4	N.	19 38 20,1 N.	38 23,9	+ 3,8
4	10 55 17,01	1	146 20 41,2	20 39,9	— 1,3	N.	16 14 31,2 N.	14 28,0	— 3,2
6	12 51 2,65	2	176 46 8.0	46 7,5	— 0,5	N.	6 18 7,9 N.	18 10,4	+ 2,5
28	5 44 54,82	1	92 11 32,8	11 29,4	— 3,4	N.	21 48 42 9 N.	48 44,3	+ 1,4
29	6 43 14.27	1	107 48 8,9	48 9,3	+ 0,4	N.	22 3 43,1 N.	3 40,6	— 2,5
30	7 42 26,33	1	123 37 42,8	37 56,3	+ 13,5	N.	20 48 4,4 N.	47 58,8	— 5,6
31	8 41 6,70	1	139 19 25,4	19 19,2	— 6,2	....	.....	.....	.....
April 1	9 38 13,60	1	154 37 3,9	37 6,2	+ 2,3	N.	14 3 22,1 N.	3 22 8	+ 0,7
2	10 33 19,51	1	169 24 41,0	24 43,4	+ 2,4	N.	9 5 28,1 N.	5 24,4	— 3,7
3	11 26 33,89	1	183 44 21,5	44 20,4	— 1,1	N.	3 33 51,5 N.	33 55.4	+ 3,9
4	12 20 41,84	2	197 44 52,0	44 48,9	— 3,1	N.	2 7 39,8 S.	7 36.2	— 3,6
27	6 34 49,44	1	134 16 17,0	16 24,0	+ 7,1	N.	19 21 10,2 N.	21 12,9	+ 2,7
28	7 30 56 95	1	149 19 22,3	19 26,5	+ 4,2	N.	15 48 47,8 N.	48 47,4	— 0,4
29	8 24 57,95	1	163 50 41,4	50 41,8	+ 0,4	N.	11 15 35,0 N.	15 32,9	— 2,1
30	9 17 4,84	1	177 53 25,4	53 17,9	— 7,5	N.	6 1 20,0 N.	1 15,6	— 4,4
May 1	10 7 52,39	1	191 36 21,0	36 9,9	— 11,1	N.	0 27 8,3 N.	27 14 7	+ 6,4
2	10 58 4,52	1	205 10 33,9	10 24.5	— 9 4	N.	5 5 46,8 S.	5 41,1	— 5,7
3	11 49 32,23	Cent	218 47 6,0	47 9,8	+ 3,8	N.	.....	.....	.....
June 28	9 16 19,28	1	235 51 3,0	50 51,4	— 11,6	N.	15 43 37,5 S.	43 39,0	+ 1,5
29	10 6 36,03	1	249 26 34,4	26 30,3	— 4,1	N.	19 4 55,0 S.	4 57,2	+ 2,1
30	10 57 52,14	1	263 16 45,9	16 45,2	— 0,7	S.	21 22 50,2 S.	22 50,3	+ 0,1
July 1	11 50 39 59	Cent	277 13 40,0	13 34.0	— 6,0	N.	22 30 39,8 S.	30 41,7	+ 1,9
25	7 13 57,05	1	231 47 23,7	47 12,6	— 11,1	N.	14 32 13,5 S.	32 13,6	+ 0,1
29	10 35 58,35	1	286 22 27,0	22 17,9	— 9,1	S.	22 35 51,5 S.	35 50 3	— 1,2
Aug. 29	11 44 53,02	1	333 51 4.0	50 55,5	— 8,5	N.	14 47 19,5 S.	47 5 6	— 13,9
Sept. 21	6 28 5,02	1	277 27 33,5	27 27,5	— 6,0	S.	22 49 37,2 S.	49 38,9	+ 1,7
26	10 25 13.62	1	341 48 52,6	48 50,3	— 2,3	S.	12 15 4,2 S.	15 3.5	— 0,7
Oct. 20	6 2 49 43	1	299 42 27,9	42 20,9	— 7,0	S.	22 16 52,4 S.	16 57,4	+ 5,0
21	6 51 35,79	1	312 54 51.6	54 44,6	— 7,0	S.	20 19 40,4 S.	19 41,2	+ 0,8
22	7 38 1,62	1	325 31 57,9	32 0,8	+ 2,9	S.	17 27 31,9 S.	27 35 2	+ 3,3
23	8 22 22,50	1	337 37 54,5	37 51,4	— 3,1	S.	13 51 3,5 S.	51 13,4	+ 9,9

1833	Madras Mean Time.	Limb Observed.	Observed A. R. of ☽'s Centre.	A.R. from Nautical Almanac.	Error of Tables.	Limb Observed.	Observed N. P. D. of ☽'s Centre.	N.P.D. from Nautical Almanac.	Error of Tables.
	h ′ ″		° ′ ″	′ ″	″		° ′ ″	′ ″	″
Oct. 25	9 46 55,71	1	0 47 37,2	47 40,3	+ 3,1	S.	5 4 14,1	S. 4 13,3	— 0,8
Nov. 18	5 32 2,87	1	320 34 22,5	34 9,9	— 12,6	S.	.....	.....	.....
19	6 17 31,84	1	332 57 11,8	57 4,4	— 7,4	S.	15 34 3,3	S. 34 15,1	+ 11,8
20	7 0 53,70	1	344 48 18,3	48 7,4	— 10,9	S.	11 34 17,8	S. 34 20,3	+ 2,5
21	7 42 51,08	1	356 18 9,4	18 0,0	— 9,4	S.	7 6 22,1	S. 6 27,5	+ 5,4
22	8 24 12,04	1	7 39 28,0	39 21,8	— 6,2	S.	2 19 38,9	S. 19 41,7	+ 2,8
Dec. 18	5 37 47,70	1	351 34 1,9	34 2,3	+ 0,4	S.	9 7 42,5	S. 7 41,4	— 1,1
19	6 19 4,74	1	2 54 3,7	53 52,9	— 10,8	S.	4 28 41,9	S. 28 39,4	— 2,9
20	7 0 4,98	1	14 2 42,5	2 53,3	+ 10,8	S.	0 22 42,3	N. 22 49,2	+ 6,9
22	8 25 20,77	1	37 31 26,6	31 15,8	— 10,8	S.	10 6 3,8	N. 6 15,6	+ 11,8
23	9 11 39,65	1	50 7 6,2	7 3,6	— 2,6	S.	14 35 12,0	N. 35 17,8	+ 5,8
24	10 1 30,91	1	63 36 51,6	36 54,1	+ 2 5	S.	18 28 43,5	N. 28 46 5	+ 3,0
25	10 55 25,29	1	78 6 31,5	6 36,7	+ 5,2	N.	21 27 12 2	N. 27 9.9	— 2,3
26	11 54 3,13	1	93 31 26,0	31 26,7	+ 0,7	N.	23 10 8,0	N. 10 4.6	— 3,4
27	12 56 6,54	1	109 31 17,2	31 15,6	— 1,6	S.	23 21 1,0	N. 20 56,6	— 4,4

Observation of the Eclipse of the Moon on the 1*st July* 1833.

	Shelton's Clock.			Madras Mean Time.			Observed by
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	
Beginning of the Eclipse	23	3	55	16	25	59,8	
The Shadow covers Mare Humoruim	23	8	36	16	30	40 1	A.
	23	8	44	16	30	48 1	T.
The Shadow touches Grimaldus	23	13	28	16	35	31.3	T.
	23	13	33	16	35	36,3	A.
The Shadow covers Grimaldus	23	14	55	16	36	58.1	T.
The Shadow touches Tycho	23	17	5	16	39	7,7	A.
	23	17	10	16	39	12,7	T.
The Shadow covers Tycho	23	18	25	16	40	27,5	A.
	23	18	29	16	40	31.5	T.
The Shadow covers Galileus	23	22	40	16	44	41,8	T.
	23	22	45	16	44	46,8	A.
The Shadow touches Keplerus	23	27	15	16	49	16,1	A.
The Shadow covers Keplerus	23	29	55	16	51	55,7	A.
The Shadow touches Copernicus	23	36	8	16	58	7,6	A.
	23	36	28	16	58	27.5	T.
The Shadow covers Copernicus	23	38	10	17	0	9,3	A.
	23	38	12	17	0	11 3	T.
The Shadow covers Aristarchus—somewhat uncertain	23	43	40	17	5	38,4	T.

Trees prevented further observation.

The Earth's Shadow was not well defined, and the observations altogether were in consequence unsatisfactory particularly towards the latter observations.

The observations marked T were made by myself with Dollond's 5 feet Achromatic with the lowest power (60); those marked A, were made by my Head Assistant with Dolland's 42 Inch Achromatic power 75; a lower power was much wanted for this nature of observation.

Observation of the Eclipse of the Moon on the 27th December 1833.

	Shelton's Clock.			Madras Mean Time.			Observed by
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	
Beginning of the Eclipse the Shadow was not well defined.	7	23	50	13	0	11,9	T.
The Shadow covers Aristarchus	7	33	28	13	9	48 4	—
The Shadow covers Copernicus	7	45	28	13	21	46,4	—
The Shadow touches Plato	7	49	23	13	25	40,8	—
The Shadow covers Aristoteles	7	58	10	13	34	26,3	—
The Shadow covers Eudoxus	7	58	15	13	34	31,3	—
The Shadow touches Tycho	7	58	44	13	35	0,2	—
The Shadow covers Tycho	7	59	22	13	35	38,1	—
The Shadow covers Plinius	8	4	45	13	41	0,2	—
The Shadow covers Meshalæ	8	12	2	13	48	16,0	—
The Shadow covers Proclus	8	14	35	13	50	48 6	—
The Shadow covers Mare Cristium	8	19	34	13	55	46,8	—
The Shadow covers the Moon	8	24	28	14	0	40,0	—
End of Total Darkness	10	2	55	15	38	51,0	—
The Shadow covers Grimaldus	10	5	50	15	41	45,5	—
The Shadow leaves Grimaldus	10	6	45	15	42	40,4	—
The Shadow leaves Galileus	10	10	14	15	46	8,8	—
The Shadow leaves Aristarchus	10	14	16	15	50	10 1	—
The Shadow covers Tycho	10	28	13	16	4	4 8	—
The Shadow leaves Tycho	10	29	10	16	5	1.8	—
The Shadow leaves Manilius	10	41	0	16	16	49 9	—
The Shadow covers Mare Cristium	10	58	20	16	34	7.1	—
The Shadow leaves Mare Cristium	11	0	0	16	35	46 8	—
End of the Eclipse	11	2	50	16	38	36,3	—

The above observations were made by myself with Dollond's 5 feet Achromatic power 60; the air was beautifully clear, and with the exception of the beginning, I have never seen the Earth's Shadow better defined; the observations though few in numbers in consequence of the rapid deposition of dew (which obliged me to stop every five minutes to wipe the object Glass), are nevertheless to be depended upon.

Eclipses of Jupiter's Satellites observed in the years 1832 *and* 1833.

1832		h. m. s.		h. m. s.	
Sept. 26	Emersion of Jupiter's first Satellite with 5 feet Achromatic power 160 at.....	20 2 45	or	7 40 26,1	M. T.
	Do. with 46 Inches Achromatic power 75 at..	20 2 55	or	7 40 36,1	M. T.
	Air very clear, and good observation.				
Oct. 3	Emersion of Jupiter's first Satellite with 5 feet Achromatic power 130 at.....	22 26 18	or	9 35 31,5	M. T.
	Do. with 46 Inches Achromatic power 75 at..	22 26 18	or	9 35 31,5	M. T.
	A little haze, but observation satisfactory.				
9	Emersion of Jupiter's second Satellite with 46 Inches Achromatic power 75 at....	23 30 50	or	10 15 35,8	M. T.
	Observation satisfactory.				
Nov. 2	Emersion of Jupiter's first Satellite with 5 feet Achromatic power 120 at.....	2 35 35	or	11 46 41,2	M. T.
	Moon light clear, observation good.				
3	Emersion of Jupiter's second Satellite with 5 feet Achromatic power 130 at.... ..	22 11 30	or	7 19 23,3	M. T.
	Do. with 46 Inches Achromatic power 75 at..	22 12 10	or	7 20 3,2	M. T.
	Moon light very clear, observation satisfactory.				
11	Emersion of Jupiter's first Satellite with 46 Inches Achromatic power 75 at.....	23 35 37	or	8 11 34,6	M. T.
	Do. with 5 feet Achromatic power 130 at....	23 35 42	or	8 11 39,6	M. T.
	Observation good.				
17	Immersion of Jupiter's third Satellite with 46 Inches Achromatic power 75 at ...	0 15 50	or	8 28 32,0	M. T.
17	Emersion of Jupiter's third Satellite with 46 Inches Achromatic power 75 at....	3 12 30	or	11 24 43,6	M. T.
Dec. 4	Emersion of Jupiter's first Satellite with 46 Inches Achromatic power 75 at.....	1 22 45	or	8 29 39,5	M. T.
5	Emersion of Jupiter's second Satellite with 46 Inches Achromatic power 75 at....	23 57 30	or	7 0 46,7	M. T.

1833					
Jan. 12	Emersion of Jupiter's first Satellite with 5 feet Achromatic power 130 at.....	2 30 49	or	7 6 58,3	M. T.
	Do. with 46 Inches Achromatic power 75 at..	2 30 55	or	7 7 4,3	M. T.
13	Emersion of Jupiter's second Satellite with 5 feet Achromatic power 60 at.....	4 47 10	or	9 19 4,6	M. T.
	Planet low, clear, observation good.				
19	Emersion of Jupiter's first Satellite with 5 feet Achromatic power 110 at.....	4 58 15	or	9 2 34,4	M. T.

		h. *m.* *s.*		*h.* *m.* *s.*	
Feb.	27—Emersion of Jupiter's first Satellite with 46 Inches Achromatic power 75, at.....	6 7 8	or	7 37 14,7	M. T.
	4° Above the horizon, observation doubtful.				
June	11—Immersion of Jupiter's first Satellite with 5 feet Achromatic power 130, at.....	20 57 46	or	15 37 1,2	M. T.
	Moon light, clear, observation satisfactory.				
	27—Emersion of Jupiter's third Satellite with 5 feet Achromatic power 130, at.....	22 22 25	or	16 0 5,7	M. T.
	Clear, observation good.				
July	4—Immersion of Jupiter's first Satellite with 46 Inches Achromatic power 75, at....	22 34 48	or	15 45 18,8	M. T.
	Thin haze, observation satisfactory.				
	20—Immersion of Jupiter's second Satellite with 46 Inches of Achromatic power 75, at..	0 3 20	or	16 11 8,2	M. T.
	27—Immersion of Jupiter's first Satellite with 46 Inches Achromatic power 75, at....	0 15 45	or	15 56 4,1	M. T.
	Observation satisfactory.				
Aug.	5—Immersion of Jupiter's first Satellite with 46 Inches Achromatic power 75, at....	21 12 26	or	12 17 57,9	M. T.
	9—Immersion of Jupiter's third Satellite with 46 Inches Achromatic power 75, at....	22 53 25	or	13 41 23,8	M. T.
	Thin haze, observation satisfactory.				
	14—Immersion of Jupiter's second Satellite with 5 feet Achromatic power 110, at.....	22 54 34	or	13 23 4,5	M. T.
	Clear, observation good.				
	14—Emersion of Jupiter's second Satellite with 5 feet Achromatic power 110, at.....	1 20 29	or	15 48 34,7	M. T.
Sept.	11—Immersion of Jupiter's first Satellite with 5 feet Achromatic power 110, at.....	3 35 35	or	16 14 22,7	M. T.
	Observation fair.				
	14—Emersion of Jupiter's third Satellite with 46 Inches Achromatic power 75, at....	21 15 45	or	9 43 51,4	M. T.
	Do. with 5 feet Achromatic power 110, at....	21 15 50	or	9 43 56,4	M. T.
	14—Emersion of Jupiter's third Satellite with 5 feet Achromatic power 110, at.....	23 34 35	or	12 2 18,9	M. T.
	21—Immersion of Jupiter's third Satellite with 5 feet Achromatic power 110, at.....	1 45 55	or	13 45 55,0	M. T.
	By reason of haze, this observation can only be considered one of second rate accuracy.				
Oct.	6—Immersion of Jupiter's first Satellite with 5 feet Achromatic power 110, at.....	23 53 36	or	10 55 16,8	M. T.

		h. m. s.		h. m. s.	
Oct.	13—Immersion of Jupiter's first Satellite with 5 feet Achromatic power 180, at.....	2 15 59	or	19 49 51,8	M. T.
	Very good observation.				
	15—Immersion of Jupiter's first Satellite with 46 Inches Achromatic power 75, at....	20 51 38	or	7 18 34,3	M. T.
	Do. with 5 feet Achromatic power 180, at...	20 51 40	or	7 18 36,3	M. T.
	20—The first appearance of the Emersion of Jupiter's third Satellite was from behind the body of the Planet at.....	22 8 15	or	8 15 13,5	M. T.
	As seen through the 5 feet Achromatic with a power 150.				
	It appeared in contact with the body of Jupiter at.....	22 16 20	or	8 23 12,3	M. T.
	31—Emersion of Jupiter's first Satellite with 5 feet Achromatic power 110, at.....	22 21 20	or	7 44 43,2	M. T.
	Do. with 46 Inches Achromatic power 75 at..	22 21 40	or	7 45 3,1	M. T.
	Clear, observation good.				
Nov.	23—Emersion of Jupiter's first Satellite with 5 feet Achromatic power 110, at.....	0 8 58	or	7 59 15,7	M. T.
	Do. with 46 Inches Achromatic power 75 at..	0 9 19	or	7 59 36,6	M. T.
Dec.	2—Emersion of Jupiter's third Satellite with 42 Inches Achromatic power 75, at....	0 56 33	or	8 11 34,1	M. T.
	Clear, observation satisfactory.				
	6—Emersion of Jupiter's second Satellite with 5 feet Achromatic power 180, at.....	2 31 10	or	9 30 14,6	M. T.
	9—Immersion of Jupiter's third Satellite with 42 Inches Achromatic power 75, at....	3 16 35	or	10 3 56,8	M. T.
	9—Emersion of Jupiter's third Satellite with 5 feet Achromatic power 110, at.....	5 27 12	or	12 14 2,6	M. T.

Not being possessed of any Greenwich or Cambridge Observations corresponding to these we will now compare them with the times given in the Nautical Almanac, from which we determine.

The Longitude of the Madras Observatory.

1832	Im. or Em.	I Satellite.	Im. or Em.	II Satellite.	Im. or Em.	III Satellite.	REMARKS.
		h. m. s.		h. m. s.		h. m. s.	
September 26	E.	5 21 11,1	..	.....	..	.....	
October 3	E.	5 20 55,5	..	.....	..	.....	
9	..	.....	E.	5 21 10,8	..	.....	
November 2	E.	5 20 57,2	..	.....	..	.....	
3	..	.....	E.	5 20 51,3	..	.....	

The Longitude of the Madras Observatory, continued.

1832	Im. or Em.	I Satellite.	Im. or Em.	II Satellite.	Im. or Em.	III Satellite.	REMARKS.
		h. m. s.		*h. m. s.*		*h. m. s.*	
November 11	E.	5 20 57,1	..	.....	..	.....	
17	..	.....	..	.....	I.	5 23 3,0	
17	..	.....	..	.....	E.	5 21 7,6	
December 4	E.	5 21 59,5	..	.....	..	.....	
5	..	.....	E.	5 21 18,7	..	.....	
1833							
January 12	E.	5 21 31,3	..	.....	..	.....	
13	..	.....	E.	5 22 11,6	..	.....	
19	E.	5 21 15,4	..	.....	..	.....	
27	E.	5 20 36,7	..	.....	..	.....	
June 11	I.	5 21 24,2	..	.....	..	.....	
27	..	.....	..	.....	E.	5 20 58,7	
July 4	I.	5 20 0,0	..	.....	..	.....	
20	..	.....	I.	5 21 36,2	..	.....	
27	I.	5 21 21,1	..	.....	..	.....	
August 5	I.	5 21 10,9	..	.....	..	.....	
9	..	.....	..	.....	I.	5 24 34,8	
14	..	.....	I.	5 21 57,5	..	.....	
14	..	.....	E.	5 21 58,7	..	.....	
September 11	I.	5 19 58,7	..	.....	..	.....	
14	..	.....	..	.....	I.	5 22 42,9	
14	..	.....	..	.....	E.	5 22 50,9	
21	..	.....	..	.....	I.	5 23 42,0	
October 6	I.	5 20 59,8	..	.....	..	.....	
13	I.	5 21 3,8	..	.....	..	.....	
15	I.	5 21 6,3	..	.....	..	.....	
31	E.	5 20 56,2	..	.....	..	.....	
November 23	E.	5 20 50,2	..	.....	..	.....	
December 2	..	.....	..	.....	E.	5 20 53,1	
6	..	.....	E.	5 21 19,6	..	.....	
9	..	.....	..	.....	I.	5 22 16,8	
9	..	.....	..	.....	E.	5 21 11,6	
Mean.....	..	5 21 0,8	..	5 21 33,0	..	5 22 20,1	

Taking the Mean of the first and second Satellites whose places are much more accurately observed and computed than those of the third Satellite we obtain :

The Longitude of the Madras Observatory.

5*h.* 21*m.* 7,7*s.* East of Greenwich.

Occultations of the Planet SATURN *and of Stars, in the years* 1832 *and* 1833.

1832

April 11—Immersion of Saturn behind the Moon's Dark Limb observed with 42 Inches Achromatic power 75.

The first edge of the ring was lost.

Centre of the Body in contact with Moon's Dark Limb at 12*h*. 4*m*. 17,0*s*. by Shelton's Clock or 10*h*. 41*m*. 36,7*s*. Madras Mean Time.

The Second edge of the Limb at 12*h*. 4*m*. 39,5*s*. by Shelton's Clock or 10*h*. 41*m*. 59,1*s*. Madras Mean Time.

Sept. 27—Immersion of a Star behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 19*h*. 8*m*. 22,5*s*. by Shelton's Clock or 6*h*. 42*m*. 20,4. Madras Mean Time.

Clear, observation good.

Nov. 3—Immersion of ψ' Aquarii behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 23*h*. 10*m*. 31,0*s*. by Shelton's Clock or 8*h*. 18*m*. 14,6*s*. Madras Mean Time.

Observation certain to a second.

29—Immersion of 31 Arietis behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 2*h*. 18*m*. 53,0*s*. by Shelton's Clock or 9*h*. 44*m*. 45,7*s*. Madras Mean Time.

Clear, observation good.

Dec. 25—Immersion of θ Capricorni behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 0*h*. 47*m*. 28,5*s*. by Shelton's Clock or 6*h*. 33*m*. 30,6. Madras Mean Time.

Observation satisfactory.

27—Immersion of 70 Aquarii behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 2*h*. 8*m*. 54,5*s*. by Skelton's Clock or 7*h*. 47*m*. 1,0*s*. Madras Mean Time.

I fancied the Star slightly projected upon the Moon's Dise at Immersion but my Assistant with the 42 Inches Achromatic did not so see it.

Do. —With 42 Inches Achromatic power 75, at 2*h*. 8*m*. 54,0*s*. by Shelton's Clock or 7*h*. 47*m*. 1,5*s*. Madras Mean Time.

1833

March 24—Immersion of μ Ceti behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7*h*. 37*m*. 34,0*s*. by Shelton's Clock or 7*h*. 28*m*. 36,4*s*. Madras Mean Time.

25—Immersion of a small Star behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 8*h*. 2*m*. 55,5*s*. by Shelton's Clock or 7*h*. 49*m*. 57,7*s*. Madras Mean Time.

Clear, observation good.

26—Immersion of a small Star behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7*h*. 9*m*. 33,0*s*. by Shelton's Clock or 6*h*. 52*m*. 47,1*s*. Madras Mean Time.

1833

March 26—Immersion of ϵ Tauri behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7*h*. 10*m*. 38,5*s*. by Shelton's Clock or 6*h*. 53*m*. 52,4*s*. Madras Mean Time.

Clear, observation good.

Emmersion of ϵ Tauri from behind the Moon's Bright Limb with 5 feet Achromatic power 110, at 7*h*. 46*m*. 20,0*s*. by Shelton's Clock or 7*h*. 29*m*. 28,1*s*. Madras Mean Time.

Immersion of a Star in Taurus behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7*h*. 53*m*. 49,5*s*. by Shelton's Clock or 7*h*. 36*m*. 56,4*s*. Madras Mean Time.

Observed Transits of the MOON *and of Stars, culminating near thereto, in the years* 1832 *and* 1833.

1832		NAMES.	Observed Transit.			1832		NAMES.	Observed Transit.		
			h.	*m.*	*s.*				*h.*	*m.*	*s.*
Jan.	13	☽ 1 Limb.....	3	42	12,09	Sept.	5	☽ 1 Limb.....	19	31	43,97
		48 Tauri.....	4	10	10,03			σ Capricorni.....	20	7	43,06
	15	☽ 1 Limb.....	5	49	24,13			π Capricorni.....	20	15	43,48
		ν Geminorum.....	6	1	58,23	Oct.	3	57 Sagittarii.....	19	43	45,10
Feb.	11	☽ 1 Limb.....	5	18	0,70			☽ 1 Limb.....	20	6	50,04
		χ^3 Orionis.....	5	54	19,42			υ Capricorni.....	20	31	48,79
	12	☽ 1 Limb.....	6	21	9,84		4	υ Capricorni.....	20	32	1,20
		ζ Geminorum.....	6	54	33,60			☽ 1 Limb.....	20	58	24,09
	23	ϕ Ophiuchi.....	16	22	28,11			δ Capricorni.....	21	39	19,14
		☽ 2 Limb.....	16	39	3,31		8	P Piscium.....	23	52	9,37
March	13	o^1 Cancri.....	8	49	31,20			S Piscium.....	23	58	49,16
		☽ 1 Limb.....	9	8	10,03			☽ 1 Limb.....	0	17	34,42
		ν Leonis.....	9	50	49,63			26 Ceti.....	0	57	15,80
	14	ν Leonis.....	9	50	52,15		9	26 Ceti.....	0	57	20,04
		☽ 1 Limb.....	10	7	48,83			☽ 1 Limb.....	1	7	34,00
April	13	☽ 1 Limb.....	12	27	40,59			☽ 2 Limb.....	1	9	42,22
		k^4 Virginis.....	12	54	20,36			ν Piscium.....	1	34	51,31
	14	k^4 Virginis.....	12	54	22,48		30	☽ 1 Limb.....	19	45	7,18
		☽ 1 Limb.....	13	18	56 61			σ Capricorni.....	20	10	30.01
		88 Virginis.....	13	38	38,55			υ Capricorni.....	20	31	17,22
	15	88 Virginis.....	13	38	14,85		31	σ Capricorni.....	20	10	30,56
		κ Virginis.....	14	2	40,20			υ Capricorni.....	20	31	17,59
		☽ 2 Limb.....	14	11	23,42			☽ 1 Limb.....	20	36	49,92
June	9	94 Virginis.....	13	55	58 87			ι Capricorni.....	21	13	42,22
		☽ 1 Limb.....	14	24	44,27	Nov.	1	ι Capricorni.....	21	13	42,39
		ξ^2 Libræ.....	14	46	14,28			☽ 1 Limb.....	21	27	23,30
	12	S Ophiuchi.....	16	50	25,14			ι Aquarii.....	21	58	11,03
		☽ 1 Limb.....	16	55	55,69			D Aquarii.....	22	10	49,01
		52 Ophiuchi.....	17	23	35 71		2	ι Aquarii.....	21	58	11,61
Sept.	4	21 Sagittarii.....	18	13	20,36			D Aquarii.....	22	10	49,64
		☽ 1 Limb.....	18	39	21.07			☽ 1 Limb.....	22	16	56,43
		138 Sagittarii.....	19	18	55,81			70 Aquarii.....	22	40	29,74
	5	138 Sagittarii.....	19	18	56,79		3	70 Aquarii.....	22	40	30,72

1832	Names.	Observed Transit. h.	m.	s.
Nov. 3	☽ 1 Limb	23	5	50,38
	r Piscium	23	54	12,21
4	190 Aquarii	23	40	54,04
	☽ 1 Limb	23	54	45,47
5	☽ 1 Limb	0	44	16,75
	f Piscium	1	10	17,21
	ν Piscium	1	33	50,88
15	α Leonis	10	0	10,53
	ρ Leonis	10	24	42,61
	☽ 2 Limb	10	36	18,26
29	δ Capricorni	21	37	33,60
	☽ 1 Limb	21	55	46,63
	70 Aquarii	22	39	27,82
30	σ Aquarii	22	21	28,72
	70 Aquarii	22	39	23,14
	☽ 1 Limb	22	44	9,44
Dec. 3	26 Ceti	0	54	41,00
	☽ 1 Limb	1	8	56,38
	ν Ceti	1	32	12,23
4	υ Piscium	1	32	8,03
	225 Ceti	1	50	37,10
	☽ 1 Limb	1	59	56,12
	μ Ceti	2	35	18,50
5	μ Ceti	2	35	13,90
	☽ 1 Limb	2	53	52,30
6	☽ 1 Limb	3	51	29,80
	179 Tauri	4	35	46,04
7	i Tauri	4	40	46,09
	☽ 1 Limb	4	54	15,52
	☽ 2 Limb			
1833				
Jan. 13	☽ 2 Limb	14	22	34,92
	a^2 Libræ	14	38	9,95
Feb. 4	q Cancri	9	10	10,65
	☽ 2 Limb	9	17	37,74
March 2	p Geminorum	7	19	6,57
	☽ 1 Limb	7	35	31,33
29	☽ 1 Limb	7	11	50,45
	l Geminorum	7	47	42,14
31	q Cancri	9	11	27,85
	☽ 1 Limb	9	17	56,32
April 1	37 Leonis	10	9	32,10
	☽ 1 Limb	10	19	9,54
4	θ Virginis	13	3	11,66
	☽ 2 Limb	13	13	56,45
28	☽ 1 Limb	9	58	25,45
	ρ Leonis	10	26	16,56
	l Leonis	10	42	44,27
29	ρ Leonis	10	26	13,75
	l Leonis	10	42	41,42
	☽ 1 Limb	10	56	28,90
	ν Virginis	11	39	29,54
May 1	γ^1 Virginis	12	35	18,56
	☽ 1 Limb	12	47	26,24
	l^3 Virginis	13	28	56,92

1833	Names.	Observed Transit. h.	m.	s.
May 2	l^3 Virginis	13	28	53,59
	☽ 1 Limb	13	41	39,84
2	Libræ	14	16	30,34
3	κ Virginis	14	5	59,95
2	Libræ	14	16	27,30
	☽ 1 Limb	14	37	7,11
	☽ 2 Limb			
June 28	γ Libræ	15	25	20,65
	η Libræ	15	33	50,32
	☽ 1 Limb	15	41	27,17
	χ Ophiuchi	16	16	30,42
29	χ Ophiuchi	16	16	27,00
	☽ 1 Limb	16	35	45,24
	ρ Ophiuchi	17	10	5,84
	D Ophiuchi	17	27	31,37
30	☽ 1 Limb	17	31	2,03
	μ^1 Sagittarii	18	2	48,51
July 1	☽ 1 Limb	18	27	50,40
	o Sagittarii	18	53	38,05
	π Sagittarii	18	58	47,35
29	ν^1 Sagittarii	18	42	20,22
	f Sagittarii	18	52	55,45
	☽ 1 Limb	19	2	37,91
	f Sagittarii	19	34	51,83
Aug. 29	δ Cancri	21	36	59,69
	μ Cancri	21	43	21,76
	☽ 1 Limb	22	14	32,37
	☽ 2 Limb			
	I Aquarii	22	33	24,52
Sept. 21	☽ 1 Limb	18	26	52,70
	26 Sagittarii	18	29	50,28
	61 Sagittarii	19	8	47,26
26	σ Aquarii	22	19	51,48
	☽ 1 Limb	22	44	16,21
Oct. 20	f Sagittarii	19	34	26,84
	☽ 1 Limb	19	55	33,51
	20 Capricorni	20	47	56,51
21	☽ 1 Limb	20	48	25 51
	γ Capricorni	21	28	41,51
	δ Capricorni	21	35	40,75
22	γ Capricorni	21	28	43,06
	δ Capricorni	21	35	42,16
	☽ 1 Limb	21	38	57,68
	f Aquarii	22	19	14,27
23	f Aquarii	22	19	14,76
	☽ 1 Limb	22	27	23,52
	h^1 Aquarii	22	54	22,05
	χ^3 Aquarii	23	8	11,22
Nov. 19	x Aquarii	21	53	49,40
	☽ 1 Limb	22	11	17,57
20	70 Aquarii	22	40	12,71
	K Aquarii	22	45	10,70
	☽ 1 Limb	22	58	40,90
21	190 Aquarii	23	40	26,05
	☽ 1 Limb	23	44	39,07
	60 Ceti	0	16	26,57
	n Ceti	0	21	59,73

1833	NAMES.	Observed Transit.			1833	NAMES.	Observed Transit.		
		h.	*m.*	*s.*			*h.*	*m.*	*s.*
Nov. 22	60 Ceti.....	0	16	25,01	Dec. 22	4 Ceti.....	3	1	54,86
	n Ceti.....	0	21	58,17		*f* Ceti.....	3	21	22,39
	☽ 1 Limb.....	0	30	3,09	23	4 Ceti.....	3	1	52,14
Dec. 18	☽ 1 Limb.....	23	25	7,09		☽ 1 Limb.....	3	29	1,83
	P Piscium.....	23	49	59,57	24	☽ 1 Limb.....	4	12	56,52
	S Piscium.....	23	56	39,19		*ι* Tauri.....	4	52	45,36
19	P Piscium.....	23	49	56,80		l^1 Tauri.....	4	57	33,86
	S Piscium.....	23	56	36,76	25	*ι* Tauri.....	4	52	43,09
	☽ 1 Limb.....	0	10	24,54		l^1 Tauri.....	4	57	31,44
	m Ceti.....	0	44	18,48		☽ 1 Limb.....	5	10	50,35
20	*m* Ceti.....	0	44	16,25		Q^2 Tauri.....	5	51	12,42
	☽ 1 Limb.....	0	55	25,99	26	Q^2 Tauri.....	5	51	10,17
	μ Piscium.....	1	21	14,21		*η* Geminorum.....	6	4	21,17
	ν Piscium.....	1	32	32,93		☽ 1 Limb.....			
22	☽ 1 Limb.....	2	28	43,38		☽ 2 Limb.....	6	13	35,36

Selecting from the above those of which corresponding observations have been made at the Greenwich Royal Observatory, we have :

1832	NAMES.	Madras Observations	t	Greenwich Observations	τ	$t - \tau$
		h. m. s.	*m. s.*	*h. m. s.*	*m. s.*	*m. s.*
March 13	o^1 Cancri.....	8 49 31,20	.....	8 48 35,76	.....	.....
	☽ 1 Limb.....	9 8 10,03	— 18 38,83	9 20 44,54	— 32 8,68	+ 13 29,85
	ν Leonis.....	9 50 49,63	+ 42 39,60	9 49 54,97	+ 29 10,43	+ 13 29,17
April 13	☽ 1 Limb.....	12 27 40,59	.....	12 40 50,26	.....	.....
	k^4 Virginis.....	12 54 20,35	+ 26 39,76	12 56 0 38	+ 15 10,12	+ 11 29,66
14	☽ 1 Limb.....	13 18 56,61	.....	13 31 53,76	.....	.....
	88 Virginis.....	13 38 38,55	+ 19 41,94	13 40 15,96	+ 8 22,20	+ 11 19,74
Oct. 8	*p* Piscium.....	23 52 9,47	— 25 24,95	23 50 31,24	— 36 27,76	+ 11 2,81
	S Piscium.....	23 58 49,23	— 18 45,19	23 56 11,18	— 30 47,82	+ 11 2,63
	☽ 1 Limb.....	0 17 34,42	.....	0 26 59,00	.....	.....
	26 Ceti.....	0 57 15,65	+ 39 41,23	0 55 37,54	+ 28 38,54	+ 11 2,69
Nov. 4	190 Aquarii.....	23 40 54,10	— 13 51,37	23 40 2,90	— 24 47,02	+ 10 55,65
	☽ 1 Limb.....	23 54 45,47	.....	0 4 49,92	.....	.....
29	☽ 1 Limb.....	21 55 46,63	.....	22 7 38,10	.....	.....
	70 Aquarii.....	22 39 27,96	+ 43 41,33	22 40 26,90	+ 32 48,80	+ 10 52,53

Similarly, for those of which corresponding observations were made at the Observatory at Cambridge, we have :

1832	NAMES.	Madras Observations	t	Cambridge Observations	τ	$t - \tau$
		h. m. s.	*m. s.*	*h. m. s.*	*m. s.*	*m. s.*
March 13	☽ 1 Limb.....	9 8 10,03	.....	9 19 40,20	.....	.....
	ν Leonis.....	9 50 49,63	+ 42 39,60	9 48 51,25	+ 29 11,05	+ 13 28,55
Sept. 4	☽ 1 Limb.....	18 39 21,07	.....	18 48 50,34	.....	.....

1832		NAMES.	Madras Observations	t	Cambridge Observations	τ	$t - \tau$
			h. m. s.	*m. s.*	*h. m. s.*	*m. s.*	*m. s.*
Sept.	4	138 Virginis...	19 18 55,78	+ 39 34,71	19 16 43,87	+ 27 53,53	+ 11 41,18
	5	138 Virginis...	19 18 56,79	— 12 47,18	19 16 40,91	— 24 22,91	+ 11 35,73
		☽ 1 Limb....	19 31 43,97	.....	19 41 3,82	.....	.....
		π Capricorni..	20 15 43,45	+ 43 59,48	20 13 27,46	+ 32 23,64	+ 11 35,84
Oct.	8	p Piscium.....	23 52 9,47	— 25 24,95	23 49 12,66	— 36 26,94	+ 11 1,89
		S Piscium.....	23 58 49,23	— 18 45,19	23 55 52,54	— 29 46,96	+ 11 1,77
		☽ 1 Limb....	0 17 34,42	.....	0 25 39,50	.....	.....
Nov.	1	☽ 1 Limb....	21 27 23,30	.....	21 36 34,29	.....	.....
		ι Aquarii....	21 58 11,03	+ 30 47,73	21 56 15,82	+ 19 41,53	+ 11 6,20
	4	190 Aquarii...	23 40 54,10	— 13 51,37	23 38 39,55	— 24 46,06	+ 10 54,69
		☽ 1 Limb....	23 54 45,47	.....	0 3 25,61	.....	.....
1833							
Feb.	4	q Cancri.....	9 10 10,65	— 7 27,09	9 9 23,32	— 21 58,12	+ 14 31,03
		☽ 2 Limb....	9 17 37,74	.....	9 31 21,44	.....	.....
April	1	37 Leonis.....	10 9 32,10	— 9 37,44	10 6 53,06	— 22 58,53	+ 13 21,09
		☽ 1 Limb....	10 19 9,54	.....	10 29 51,59	.....	.....
	28	☽ 1 Limb....	9 58 25,45	.....	10 7 28,38	.....	.....
		ρ Leonis.....	10 26 16,58	+ 27 51,13	10 22 12,53	+ 14 44,15	+ 13 6,98
May	3	χ Virginis....	14 5 59,89	— {30 0,09 — {32 14,35	14 4 1,02	— {42 10,40 — {44 25,16	+ {12 10,31 + {12 10,81
		2 Libræ.....	14 16 27,26	— {19 32,72 — {21 46,98	14 14 28,33	— {31 43,09 — {33 57,85	+ {12 10,37 + {12 10,87
		☽ 1 Limb....	14 35 59,98	.....	14 46 11,42	.....	.....
		☽ 2 Limb....	14 38 14,24	.....	14 48 26,18	.....	.....
June	29	☽ 1 Limb....	16 35 45,24	.....	16 47 46,49	.....	.....
		D Ophiuchi...	17 32 31,47	+ 56 46,23	17 32 17,83	+ 44 31,34	+ 12 14,89
July	1	☽ 1 Limb....	18 26 42,62	.....	18 38 55,90	.....	.....
		o Sagittarii....	18 53 38,14	+ 26 55,52	18 53 27,70	+ 14 31,80	+ 12 23,72
		π Sagittarii...	18 58 47,46	+ 32 4,84	18 58 37,20	+ 19 41,30	+ 12 23,54
Sept.	26	σ Aquarii....	22 19 51,46	— 24 24,75	22 21 1,31	— 34 50,87	+ 10 26,12
		☽ 1 Limb....	22 44 16,21	.....	22 55 52,18	.....	.....
Oct.	20	f Sagittarii...	19 34 26,86	— 21 6,65	19 35 52,13	— 33 4,28	+ 11 57,63
		☽ 1 Limb...	19 55 33,51	.....	20 8 56,41	.....	.....
	23	f Aquarii.....	22 19 14,77	— 8 8,75	22 20 28,23	— 18 40,61	+ 10 31,91
		☽ 1 Limb.....	22 27 23,52	.....	22 39 8,89	.....	.....
		h^1 Aquarii....	22 54 22,03	+ 26 58,51	22 55 35,54	+ 16 26,65	+ 10 31,86
		ψ^3 Aquarii.....	23 8 11,18	+ 40 47,66	23 9 24,60	+ 30 15,71	+ 10 31,95

The above observations at Greenwich and Cambridge are extracted from the Monthly reports of the proceedings of the Royal Astronomical Society; but my copy of these not being complete; it is possible that a greater number of corresponding observations may have been made than are now given. In computing the Longitude I have in either case assumed $\chi = 5h.\ 21m.$ in preference to computing the horary motion for the middle of the times of passage, and for the other elements of the computation have employed the Nautical Almanac; the values of the Longitude thus deduced are as follows:

1832		Longitude from Greenwich Observations.						Longitude from Cambridge Observations.						Remarks.
		☽ 1 L.			☽ 2 L.			☽ 1 L.			☽ 2 L.			
		h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
March	13	5	20	52,47	.....			5	20	27,59	.....			
April	13	5	20	53,97	.....			.....			.....			
	14	5	21	4,05	.....			.....			.....			
September	4	.....			.....			5	20	48,62	.....			
	5	.....			.....			5	20	20,51	.....			
October	8	5	20	54,37	.....			5	20	28,69	.....			
November	1	.....			.....			5	20	23,01	.....			
	4	5	20	52,30	.....			5	20	24,27	.....			
	29	5	20	46,60	.....			.....			.....			
1833														
February	4	.....			.....			.....			5	20	33,19	
April	4	.....			.....			5	20	34,31	.....			
	28	.....			.....			5	20	50,80	.....			
May	3	.....			.....			5	20	26,25	5	20	34,01	
June	29	.....			.....			5	20	31,14	.....			
July	1	.....			.....			5	20	46,05	.....			
September	26	.....			.....			5	20	22,47	.....			
	20	.....			.....			5	20	20,32	.....			
October	23	.....			.....			5	20	23,84	.....			
Mean.....		5	20	55,94	.....			5	20	30,56	5	20	33,60	

The observations of 1831, shew that a correction of about 12 seconds ought to be applied to the Longitude determined from the Observations of the Moon's first limb at Greenwich when compared with the Madras Observations; not having any corresponding observations at Greenwich of the Moon's second limb in 1832 and 1833, it will perhaps be the safer plan to allow these observations to remain as they are until further observations upon the Moon's second limb have been made; the Cambridge Observations offer two results of the longitude from the second limb, which taking the mean and allowing the longitude of Cambridge to be 23,54*s*. East of Greenwich, we obtain for the longitude of Madras 5*h*. 20*m*. 55,62*s*. a result which is probably from 5 to 10 seconds in defect.

Observation of the Transit of MERCURY, *May* 5, 1832, *observed with Dollond's five-feet Achromatic, power* 110.

	Mean Time. *h.* *m.* *s.*
The Exterior contact at ingress was lost.	
Centre of Planet (by estimation) in contact with the Sun's limb....	2 22 21,5
Interior contact at ingress.....	2 23 37,3
High wind which agitated the telescope prevented further observation.	

SUPPLEMENTARY OBSERVATIONS AND REMARKS.

Hitherto, in the reduction of the Madras Observations I have employed for the aberration, nutation, &c. the tables by Baily, published in the II Volume of the Royal Astronomical Society's Memoirs; the great care which was taken in the computation of these tables, and the superior judgment and skill of the Superintendant renders it unnecessary for me here to offer any explanation as to why I have given to them the preference; in the reduction of the observations of 1831, being obliged to compute the values A, B, C, D, I assumed for the value of the maximum of aberration 20,50s.* instead of 20,36s. which had been recommended by Mr. Baily; but in the reductions for 1832 and 1833, these numbers having been furnished in the Supplements to the Nautical Almanac computed for the latter co-efficient, I have considered the difference too unimportant to render a recomputation necessary. For the refraction, I have employed those very excellent tables by Mr. Henry Atkinson published in the III Volume of the Astronomical Society's Memoirs; independant of the elegance and originality which marks this memoir through every step of the investigation, the actual comparison of observations at low altitudes *below* the Pole at Greenwich, with those *above* the Pole, has given to these tables a preference to those of Ivory, Young, Brinkley, Bradley and Groombridge, with which they have been compared; as this comparison however does not extend to altitudes below 10°, it will at least be *interesting*, if not *useful* to fill up the blank; for this purpose we will select from the Greenwich Catalogue those Stars which are situated at 120° of N. P. D. or $8\frac{1}{2}$° altitude, and downwards to the horizon; for at these altitudes the uncertainty of refraction amounts to several seconds, whereas at the altitudes which Stars thus situated attain to at Madras (from 47° to 39°), the uncertainty is comparatively very unimportant.

The Greenwich Catalogues which I am so fortunate as to possess, are; a Catalogue of 720 Stars observed (I believe) in 1827-29 and reduced to 1830; and the Catalogue published in Part 5, of the observations for 1831; these being reduced to January 1, 1832, and arranged in order of N. P. D. are as follows.

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* Deduced from the Greenwich Observations by Mr. W. Richardson.

NAMES.	A. R.	Greenwich N. P. D. for 1832 from Observations.				Concluded N. P. D. Jan. 1, 1832	Bradley's Refraction Bar. 29,6 Ther. 50°.	Presumed Apparent N. P. D.
		In 1828.		In 1831.				
	h ′	No.	′ ″	No.	′ ″	° ′ ″	′ ″	° ′ ″
ζ Sagittarii....	18 51	12	6 37,70	2	6 40,18	120 6 38,05	— 6 7,33	120 0 30,72
α Ault. Piscium	10 19	14	12 50,50	....	.....	120 12 50,50	— 6 11,70	120 6 38,80
α App. Sculp..	0 50	....	.....	14	15 58,79	120 15 58,79	— 6 13,85	120 9 44,96
γ² Sagittarii...	17 55	....	.....	2	24 57,80	120 24 57,80	— 6 20,12	120 18 37,68
α Piscis. Aust..	22 48	96	30 36,20	18	30 36,87	120 30 36,31	— 6 24,17	120 24 12,14
ν² Eridani.....	4 29	6	54 43,20	4	54 42,98	120 54 43,20	— 6 42,64	120 48 0,56
ξ Hyd. & Crat.	11 24	14	55 41,50	2	55 40,89	120 55 41,41	— 6 43,44	120 48 57,97
h Centauri....	13 43	....	.....	10	5 37,29	121 5 37,29	— 6 51,55	120 58 45,74
0 Piscis. Aust..	21 37	....	.....	2	40 13,64	121 40 13,64	— 7 22,29	121 32 51,35
k Centauri....	13 42	6	9 24,70	1	9 23,66	122 9 24,55	— 7 51,59	122 1 32,96
* Centauri....	13 36	....	.....	13	11 26,21	122 11 26,21	— 7 53,90	122 3 32,31
κ² Canis Maj..	6 43	14	19 11,50	....	.....	122 19 11,50	— 8 2,31	122 11 9,19
μ Columbæ....	5 40	....	.....	2	22 36,21	122 22 36,21	— 8 5,95	122 14 30,26
D Canis Maj..	6 22	....	.....	10	28 47,14	122 28 47,14	— 8 13,27	122 20 33,87
α Pixed Naut..	8 36	18	35 7,60	....	.....	122 35 7,60	— 8 20,85	122 26 46,75
4 Piscis. Aust..	21 7	....	.....	2	52 10,76	122 52 10,76	— 8 41,88	122 43 28,88
β Hydræ.....	11 44	10	58 28,10	....	.....	122 58 28,10	— 8 49,60	122 49 38,50
χ Lupi.....	15 40	6	6 28,50	2	6 30,77	123 6 29,07	— 9 0 82	122 57 28,25
β Piscis. Aust..	22 22	14	12 17,30	2	12 21,05	123 12 17,77	— 9 8,83	123 3 8,94
λ Canis Maj...	6 16	10	21 28,50	....	.....	123 21 28,50	— 9 22,05	123 12 6,45
g Centauri....	13 40	....	.....	8	36 33,29	123 36 33 29	— 9 45,02	123 26 48,27
γ Piscis. Aust..	22 43	....	.....	6	45 52,75	123 45 52,75	— 10 0,24	123 35 52 51
ι Piscis. Aust..	21 35	14	47 17,30	....	.....	123 47 17,30	— 10 2,56	123 37 14,74
k Scorpii.....	16 54	....	.....	6	52 42,00	123 52 42,00	— 10 11,60	123 42 30,40
ε Scorpii.....	16 39	10	58 49,70	....	.....	123 58 49 70	— 10 22,33	123 48 27,37
α Columbæ....	5 33	8	10 14,40	6	.....	124 10 14,40	— 10 42,75	123 59 31,65
* Canis Maj...	6 45	....	.....	....	10 31,59	124 10 31,59	— 10 43,20	123 59 48,39
41 Eridani.....	4 11	4	12 54,90	....	.....	124 12 54,90	— 10 47,50	124 2 7,40
α Norniæ.....	16 20	....	.....	10	19 52,84	124 19 52,84	— 11 1,40	124 8 51.44
α Microscopii..	20 39	6	23 49,30	2	*24 3,33	124 23 49,30	— 11 9 60	124 12 39,70
43 Eridani.....	4 17	4	24 48,40	....	.....	124 24 48,40	— 11 11,70	124 13 36,70
ε Sagittarii....	18 12	9	27 22,10	....	.....	124 27 22,10	— 11 16 90	124 16 5,20
β Pixed Naut..	8 33	....	.....	2	43 21,05	124 43 21,05	— 11 50,30	124 31 30,75
κ Columbæ....	6 10	8	5 31,40	4	5 35,84	125 5 32,88	— 12 42,40	124 52 50,48
γ Columbæ....	5 51	3	18 31,90	2	†18 46,50	125 18 31.90	— 13 16,30	125 5 15,60
0 Centauri....	13 56	8	32 31,50	....	.....	125 32 31,50	— 13 53,50	125 18 38,00

* This being only a single observation at each Instrument, I have rejected it and assumed the result of 1828.

† I have rejected this result as erroneous in consequence of the coincidence of the results of 1828, with the R. A. Society's Catalogue, for comparing it with κ Columbæ we have :

R. A. S. Catalogue 1830.	*Greenwich Observations of* 1828 *reduced to* 1830.	*Greenwich Observations of* 1831 *reduced to* 1830.
° ′ ″	° ′ ″	° ′ ″
125 5 20,20	125 5 31,40	125 5 35,84
125 18 23,30	125 18 31,90	125 18 46,50
Difference..13 3,10	13 0,50	13 10,66

NAMES.	A.R.	Greenwich N. P. D. for 1832 from Observations.				Concluded N. P. D. Jan. 1, 1832.	Bradley's Refraction Bar. 29,6 Ther. 50°.	Presumed Apparent N. P. D.
		In 1828.		In 1831.				
	h ′	No.	′ ″	No.	′ ″	° ′ ″	′ ″	° ′ ″
ε Columbæ....	5 25	5	36 10,60	2	36 9,75	125 36 10,36	— 14 4,50	125 22 5,86
ι Centauri....	13 11	11	49 35,60	....	.....	125 49 35,60	— 14 46,40	125 34 49,20
β Columbæ....	5 45	2	50 24,40	4	50 29,21	125 50 27,61	— 14 49,20	125 35 38,41
φ² Lupi.....	15 12	....	.....	1	15 23,52	126 15 23,52	— 16 13,50	125 59 10,02
θ Lupi.....	15 55	....	.....	1	20 33,73	126 20 33,73	— 16 33,40	126 4 0,33
β Telescopii...	18 6	6	48 39,70	5	48 30,46	126 48 35,50	— 18 28,70	126 30 6,80
λ Scorpii.....	17 22	1	58 37,30	5	58 38,43	126 58 38,24	— 19 14,20	126 39 24,04
η Telescopii...	17 38	1	59 25,10	1	‡58 59,73	126 59 12,41	— 19 16,70	126 39 55,71

It will readily be understood that the above column "Barometer 29,6 Thermometer 50°" is computed from Bradley formula $r = 57'',00 \times tan.(z - 3r)$. If it should so happen that any of the Stars above given were observed under this pressure and at this temperature, then the column "Presumed Apparent N. P. D." will be the N. P. D. as actually observed at Greenwich corrected for aberration, &c. and reduced to the beginning of 1832; but since this can hardly be the case exactly in any one single instance, our "Presumed Apparent N. P. D." will be subject to the error which attaches to Bradley's correction for temperature and pressure; notwithstanding this apparently serious objection which (not being possessed of the Greenwich Observations for 1831) I am unable to remedy, and considering that the numbers for which we are seeking are large in proportion to the *uncertainty* of Bradley's correction for 10° or 15° of temperature or for 3 or 4 tenth of an inch of pressure (the probable extent for which the correction is required) I have ventured as a rough approximation to proceed with these computations.

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‡ A single observation at this low altitude cannot much be depended upon; the difference between this Star and the preceding one compared with the Society's Catalogue is as follows:

R. A. S. Catalogue 1830.	*Greenwich Observations of* 1828 *reduced to* 1830.	*Greenwich Observations of* 1831 *reduced to* 1830.
° ′ ″	° ′ ″	° ′ ″
126 58 3,48	126 58 30,70	126 58 31,83
126 58 41,54	126 59 21,30	126 58 55,93
Difference..38,06	50,60	24,10

As there appears no reason for attaching an error to one of these rather than to the other, I have attributed the disagreement to error incidental to observations at this altitude, and taken the mean accordingly.

NAMES.	A. R.	MADRAS. Mean N.P.D. Jan. 1, 1832	GREENWICH. Presumed Apparent N.P.D. Jan. 1, 1832.	Barometer 29,60 Ther. 50°. Observed Refraction.	Bradley's Refraction.	Atkinson's Refraction.	Error of Bradley.	Error of Atkinson.
	h ′	° ′ ″	° ′ ″	′ ″	′ ″	′ ″	″	″
ζ Sagittarii....	18 51	120 6 44,74	120 0 30,72	6 14,02	6 7,33	6 7,91	— 6,69	— 6,11
α Antl. Pneum.	10 19	120 12 55,91	120 6 38,80	6 17,11	6 11,70	6 12,18	— 5,41	— 4,93
α App. Sculp..	0 50	120 16 2,41	120 9 44,96	6 17,45	6 13,83	6 14,28	— 3,62	— 3,17
γ² Sagittarii...	17 55	120 25 2,81	120 18 37,68	6 25,13	6 20,12	6 20,44	— 5,01	— 4.69
α Piscis. Aust..	22 48	120 30 39,01	120 24 12,14	6 26,87	6 24,17	6 24,39	— 2,70	— 2,48
υ² Eridani.....	4 29	120 54 43,17	120 48 0,56	6 42,61	6 42,64	6 42,73	+ 0,03	+ 0,12
ξ Hyd. & Crat.	11 24	120 55 42,87	120 48 57,97	6 44,90	6 43,44	6 43,47	— 1,46	— 1,43
h Centauri....	13 43	121 5 38,66	120 58 45,74	6 52,92	6 51,55	6 51,05	— 1,37	— 1,87
θ Piscis. Aust..	21 37	121 40 16,01	121 32 51,35	7 24,66	7 22,29	7 21,04	— 2,37	— 3,62
k Centauri....	13 42	122 9 22,74	122 1 32,96	7 49,78	7 51,59	7 49,72	+ 1,81	— 0,06
* Centauri....	13 36	122 11 26,06	122 3 32,31	7 53,75	7 53,90	7 51,92	+ 0,15	— 1,83
κ² Canis Maj..	6 43	122 19 9,50	122 11 9,19	8 0,31	8 2,31	7 59,89	+ 2,00	— 0,42
μ Columbæ....	5 40	122 22 30,12	122 14 30,26	7 59,86	8 5,95	8 3,39	+ 6,09	+ 3,53
D Canis Maj..	6 22	122 28 43,76	122 20 33,87	8 9,89	8 13,27	8 10,45	+ 3,38	+ 0,56
α Pixid Naut..	8 36	122 35 3,72	122 26 46,75	8 16,97	8 20,85	8 17,77	+ 3,88	+ 0,80
4 Piscis. Aust..	21 7	122 52 5,40	122 43 28,88	8 36,52	8 41,88	8 38,06	+ 5,36	+ 1,54
β Hydræ.....	11 44	122 58 22,11	122 49 38,50	8 53,61	8 49,60	8 45,48	— 4,01	— 8,13
χ Lupi.....	15 40	123 5 28,93	122 57 28,25	9 0,68	9 0,82	8 56,27	+ 0,14	— 4,41
β Piscis. Aust..	22 22	123 12 14,90	123 3 8,94	9 5,96	9 8,83	9 4,04	+ 2,87	— 1,92
λ Canis Maj...	6 16	123 21 19,79	123 12 6,45	9 13,34	9 22,05	9 16,69	+ 8,71	+ 3,35
g Centauri....	13 40	123 36 28,83	123 26 48,27	9 40,56	9 45,02	9 38,65	+ 4,46	— 1,91
γ Piscis. Aust..	22 43	123 45 47,08	123 35 52,51	9 54,57	10 0,24	9 53,04	+ 5,67	— 1,53
ι Piscis. Aust..	21 35	123 47 14,47	123 37 14,74	9 59,73	10 2,56	9 55,26	+ 2,83	— 4,47
k Scorpii.....	16 54	123 52 38,09	123 42 30,40	10 7.69	10 11,60	10 3,97	+ 3,91	— 3,72
ε Scorpii.....	16 39	123 58 45,71	123 48 27,37	10 18,34	10 22,33	10 14,07	+ 3,99	— 4,27
α Columbæ....	5 33	124 10 5,12	123 59 31,65	10 33,47	10 42,75	10 33,68	+ 9,28	+ 0,21
* Canis Maj...	6 45	124 10 25,09	123 59 48,39	10 36,70	10 43,20	10 34,03	+ 6,50	— 2 67
41 Eridani.....	4 11	124 12 46,98	124 2 7,40	10 39,58	10 47,50	10 38,59	+ 7,92	— 0,99
α Normæ.....	16 20	124 19 49,21	124 8 51,44	10 57,77	11 1,40	10 51,35	+ 3,63	— 6,42
α Microscopii..	20 39	124 23 43,11	124 12 39,70	11 3,41	11 9,60	10 59,26	+ 6,19	— 4,15
43 Eridani.....	4 17	124 24 42,65	124 13 36,70	11 5,95	11 11,70	11 0,97	+ 5,75	— 4,98
ε Sagittarii....	18 12	124 27 18,19	124 16 5,20	11 12,99	11 16,90	11 5,85	+ 3,91	— 7,14
β Pixid Naut...	8 33	124 43 1,39	124 31 30,75	11 30,64	11 50,30	11 37,46	+ *19,66	+ 6,82
κ Columbæ....	6 10	125 5 25,85	124 52 50,48	12 35,37	12 42,40	12 28,15	+ 7,03	— 7,22
γ Columbæ....	5 51	125 18 25,92	125 5 15,60	13 10,32	13 16,30	13 0,40	+ 5,98	— 9,92
θ Centauri....	13 56	125 32 24,13	125 18 38,00	13 46,13	13 53,50	13 36,95	+ 7,37	— 9,18
ε Columbæ....	5 25	125 35 56,03	125 22 5,86	13 50,17	14 4,50	13 47,07	+ 14,33	— 3,10
ι Centauri....	13 11	125 49 25,99	125 34 49,20	14 36,79	14 46,40	14 29,01	+ 9,61	— 7,78
β Columbæ....	5 45	125 50 11,49	125 35 38,41	14 33,08	14 49,20	14 31,90	+ 16,12	— 1,18
φ² Lupi.....	15 12	126 14 56,97	125 59 10,02	15 46,95	16 13,50	15 51,54	+ 26,55	+ 4,59
θ Lupi.....	15 55	126 20 13,64	126 4 0,33	16 13,31	16 33,40	16 10,29	+ 20,09	— 3,02
β Telescopii...	18 6	126 48 8,20	126 30 6,80	18 1,40	18 28,70	18 2,06	+ 27,30	+ 0,66
λ Scorpii.....	17 22	126 58 10,72	126 39 24,04	18 46,68	19 14,20	18 48,20	+ 27,52	+ 1,52
γ Telescopii...	17 38	126 58 43,66	126 39 55,71	18 47,95	19 16,70	18 49,35	+ 28,75	+ 1,40

The above columns will I apprehend require little or no explanation; consulting that headed "Errors of Bradley" we are led at once to the conclusion, that for altitudes below 5°, Bradley's Refraction can in no wise be

* The Greenwich place of this Star is probably 10 or 12 seconds too large.

trusted. For the altitudes above 5°, the errors incidental to one or two observations (which in some cases constitute the result), do not enable us to form an opinion. Consulting the column "Error of Atkinson"; between the limits of 81° 30′ and 85° 30′, and between 87° 4′ and 88° 8′ of Zenith Distance, we can perceive no error but what can be reasonably supposed to arrise from the errors of observations joined to perhaps a small error* in the temperature; an error which must always exist when there is a considerable difference between the "IN" and "OUT" Thermometer; neither of which in this case can be proper to be employed in computing the refraction; *between* these limits, viz. between 85° 30′ and 87° 4′ of Zenith Distance we find ten very accordant results, shewing that Atkinson's refractions are too small by about 6″. To say nothing of the enormous errors which appear in the preceeding column (errors of Bradley) which have long since been acknowledged; we cannot but lament that whilst Astronomers have paid such ample and proper attention to the determination of the co-efficient of aberration, nutation, and precession, so much should be left undone in the way of refraction.

PARALLAX OF THE PLANET MARS.

Since Pages 90 and 91 were put to press, I have been favored with Volume VI of the Royal Astronomical Society's Memoirs, containing observations made at the Cape and at St. Helena, of the North Polar Distance of *Mars*,

---

* Supposing the error of temperature to be only a single degree of Fahrenheit, then the error of the refraction will be:

	°	″
For 84	Zenith Distance	0,8
— 85	—— ——	1,0
— 86	—— ——	1,3
— 87	—— ——	1,7
— 88	—— ——	2,3
— 89	—— ——	3,2

Now notwithstanding all the care that is taken at the Greenwich Royal Observatory to equalise the temperature within and without, (and I have good reason for knowing that a very considerable degree of attention is paid to this particular), it is nevertheless not unfrequently found that a difference of 5 or 6 degrees exists between the "IN" and "OUT" Thermometer, it sometimes (most frequently) being warmer in the Observatory than in the open air, and at other times colder.

and of certain Stars, which had been previously pointed out by Mr. Henderson, Astronomer at the Cape, as proper for the determination of the parallax of this Planet; of the observations made at the Cape there have been several corresponding observations made here with which we will now compute the parallax of Mars: from Pages 90 and 91; &c. as above, we obtain as follows.

Difference of Declination between the Centre of the Planet MARS, *and of Stars, from observations at*

1832	NAMES.	Madras. Observed Difference.	R.	The Cape of Good Hope. Observed Difference.	R.	M.
		° ′ ″	″	° ′ ″	″	″
Nov. 9	A^2 Tauri.	0 35 20,6	+ 0,59 + ,1399 ρ	= 0 35 16,4	+ 1,79 — 10,30	+ ,8162 ρ
	53 Tauri.	0 17 56,3	+ 0,30 — ,1399 ρ	= 0 17 55,9	+ 0,93 + 10,30	— ,8162 ρ
	α Tauri..	4 51 44,2	+ 4,68 — ,1399 ρ	= 4 51 35,3	+ 13,13 + 10,30	— ,8162 ρ
15	b Tauri.	0 3 33,6	+ 0,06 — ,1378 ρ^{I}	= 0 3 29,6	+ 0,12 + 18,32	— ,8152 ρ^{I}
	53 Tauri.	0 9 37,5	+ 0,16 — ,1378 ρ^{I}	= 0 9 32,5	+ 0,50 + 18,32	— ,8152 ρ^{I}
	α Tauri.	4 43 23,2	+ 4,42 — ,1378 ρ^{I}	= 4 43 11,5	+ 12,66 + 18,32	— ,8152 ρ^{I}
16	b Tauri.	0 1 45,4	+ 0,02 — ,1370 ρ^{II}	= 0 1 40,5	+ 0,06 + 19,18	— ,8145 ρ^{II}
	α Tauri.	4 41 35,6	+ 4,37 — ,1370 ρ^{II}	= 4 41 23,4	+ 12,60 + 19,18	— ,8145 ρ^{II}
17	A^1 Tauri.	0 47 18,0	+ 0,78 + ,1364 ρ^{III}	= 0 47 23,1	+ 2,36 — 20,03	+ ,8142 ρ^{III}
22	b Tauri..	0 10 51.4	+ 0,18 + ,1333 ρ^{IV}	= 0 10 59,3	+ 0,55 — 23,68	+ ,8123 ρ^{IV}
	A^1 Tauri.	0 58 2,8	+ 0,97 + ,1333 ρ^{IV}	= 0 58 9,8	+ 2,97 — 23,68	+ ,8123 ρ^{IV}
	α Tauri.	4 29 0,6	+ 4,35 — ,1333 ρ^{IV}	= 4 28 43,4	+ 12,01 + 23,68	— ,8123 ρ^{IV}
30	65 Arietis	0 7 58,3	+ 0,13 — ,1278 ρ^{V}	= 0 7 46,1	+ 0,18 + 23,51	— ,8091 ρ^{V}
Dec. 4	65 Arietis	0 0 43 4	+ 0,01 + ,1254 ρ^{VI}	= 0 0 56,3	+ 0,05 + 20,94	+ ,8078 ρ^{VI}
	α Tauri.	4 1 27,9	+ 3,83 — ,1254 ρ^{VI}	= 4 1 13,3	+ 10,49 + 20,94	— ,8078 ρ^{VI}
5	α Tauri.	3 59 27,1	+ 3,80 — ,1248 ρ^{VII}	= 3 59 19,0	+ 10,30 + 19,74	— ,8073 ρ^{VII}
6	65 Arietis	0 4 37,8	+ 0,08 + ,1243 ρ^{VIII}	= 0 4 44,2	+ 0,22 — 18.74	+ ,8070 ρ^{VIII}
	F^1 Tauri.	0 58 2,8	+ 0,97 — ,1243 ρ^{VIII}	= 0 57 58,1	+ 2,82 + 18,72	— ,8070 ρ^{VIII}
	α Tauri.	3 57 34,5	+ 3,77 — ,1243 ρ^{VIII}	= 3 57 24,1	+ 10,29 + 18,72	— ,8070 ρ^{VIII}
7	65 Arietis	0 6 24,6	+ 0,11 + ,1237 ρ^{IX}	= 0 6 30,5	+ 0,30 — 17,70	+ ,8067 ρ^{IX}
	F^1 Tauri.	0 56 17,0	+ 0,94 — ,1237 ρ^{IX}	= 0 56 12,4	+ 2,75 + 17,70	— ,8067 ρ^{IX}
	α Tauri.	3 55 46,4	+ 3,77 — ,1237 ρ^{IX}	= 3 55 37,9	+ 10,32 + 15,70	— ,8067 ρ^{IX}
12	α Tauri.	3 48 31,3	+ 3,64 — ,1217 ρ^{X}	= 3 48 29,2	+ 9,85 + 11,32	— ,8054 ρ^{X}
13	38 Arietis	0 3 30,8	+ 0,06 — ,1213 ρ^{XI}	= 0 3 31,4	+ 0,16 + 10,13	— ,8052 ρ^{XI}
	α Tauri.	3 47 26,3	+ 3,33 — ,1213 ρ^{XI}	= 3 47 27,2	+ 9,85 + 10,13	— ,8052 ρ^{XI}
15	38 Arietis	0 1 48,7	+ 0,03 — ,1208 ρ^{XII}	= 0 1 53,3	+ 0,09 + 7,20	— ,8050 ρ^{XII}
22	65 Arietis	0 17 31,5	+ 0,29 + ,1205 ρ^{XIII}	= 0 17 16,2	+ 0,82 + 4,29	+ ,8048 ρ^{XIII}
	α Tauri.	3 44 39,0	+ 3,50 — ,1205 ρ^{XIII}	= 3 44 51,9	+ 9,81 — 4,29	— ,8048 ρ^{XIII}
24	65 Arietis	0 16 21,5	+ 0,27 + ,1208 ρ^{XIV}	= 0 16 3,3	+ 0,77 + 7,71	+ ,8051 ρ^{XIV}
	α Tauri.	3 45 47,8	+ 3,53 — ,1208 ρ^{XIV}	= 3 46 3,9	+ 9,91 — 7,71	— ,8051 ρ^{XIV}
25	65 Arietis	0 15 32,6	+ 0,26 + ,1211 ρ^{XV}	= 0 15 14,4	+ 0,73 + 9,09	+ ,8051 ρ^{XV}
	α Tauri.	3 46 39,4	+ 3,55 — ,1211 ρ^{XV}	= 3 46 53,1	+ 9,87 — 9,09	— ,8051 ρ^{XV}

In the above computation of R, which it will be understood is the difference of the refractions due to the Planet and Star, I have employed Atkinson's Table of Refractions, and have assumed the ratio of the Polar and Equatoreal Axis, 299 : 300; from which we determine:

	For the Observations at Madras.		The Cape.
	′ ″		′ ″
Angle of the Vertical.....	= 5 0	——	10 38
Logarithm Radius of the Earth.....	= 9,99992	——	9,99958

Not having in my possession any Tables of the Planetary motions, from which I could compute the change of Declination (M.) for the interval between the Planet transiting the meridians of Madras and the Cape of Good Hope, I have been reduced to an interpolation from the observations, on which account errors to the amount of 0″,2 in any single measure may be expected; but as these will occur indifferently + or —, the mean result cannot on this account be much affected.

To render these results in a more useful shape, we will now compute P, the Parallax at the time of opposition, when the Planets distance from the Earth was ,50581 whose Logarithm = 9,7040. Employing the Logarithm Distances given in the Supplement to the Nautical Almanac and *resolving the above equations.*

1832	From the Observations of.	We determine.										
		″						″				″
Nov. 9	A^1 Tauri.....	13,30	=	,6763 ρ		or ρ	=	19,666	and P	=		19,697
	53 Tauri.....	10,53	=	,6763 ρ		— ρ	=	15,570	——	=		15,595
	α Tauri.....	9,85	=	,6763 ρ		— ρ	=	14,564	——	=		14,590
15	b Tauri.....	14,38	=	,6774 ρ^{I}		— ρ^{I}	=	21,228	——	=		21,262
	53 Tauri.....	13,56	=	,6774 ρ^{I}		— ρ^{I}	=	20,017	——	=		20,050
	α Tauri.....	14,86	=	,6774 ρ^{I}		— ρ^{I}	=	21,937	——	=		21,972
16	b Tauri.....	14,32	=	,6775 ρ^{II}		— ρ^{II}	=	21,137	——	=		21,204
	α Tauri.....	15,21	=	,6775 ρ^{II}		— ρ^{II}	=	22,450	——	=		22,520
17	A^1 Tauri.....	13,45	=	,6778 ρ^{III}		— ρ^{III}	=	19,844	——	=		19,944
22	b Tauri.....	15,41	=	,6790 ρ^{IV}		— ρ^{IV}	=	22,695	——	=		23,122
	A^1 Tauri.....	14,68	=	,6790 ρ^{IV}		— ρ^{IV}	=	21,620	——	=		22 027
	α Tauri.....	14,14	=	,6790 ρ^{IV}		— ρ^{IV}	=	20,825	——	=		21,216
30	65 Arietis.....	11,36	=	,6813 ρ^{V}		— ρ^{V}	=	16,673	——	=		17,767
Dec. 4	65 Arietis.....	8,00	=	,6824 ρ^{VI}		— ρ^{VI}	=	11,724	——	=		12,803
	α Tauri.....	13,00	=	,6824 ρ^{VI}		— ρ^{VI}	=	19,050	——	=		20,804
5	α Tauri.....	18,14	=	,6825 ρ^{VII}		— ρ^{VII}	=	26,579	——	=		29,247
6	65 Arietis.....	12,18	=	,6827 ρ^{VIII}		— ρ^{VIII}	=	17,842	——	=		19,784
	F^1 Tauri.....	15,87	=	,6827 ρ^{VIII}		— ρ^{VIII}	=	18,464	——	=		20,476
	α Tauri.....	14,64	=	,6827 ρ^{VIII}		— ρ^{VIII}	=	21,444	——	=		23,778
7	65 Arietis.....	11,61	=	,6830 ρ^{IX}		— ρ^{IX}	=	16,998	——	=		19,007
	F^1 Tauri.....	14 91	=	,6830 ρ^{IX}		— ρ^{IX}	=	21,830	——	=		24,410
	α Tauri.....	15,75	=	,6830 ρ^{IX}		— ρ^{IX}	=	23,060	——	=		25,783
12	α Tauri.....	15,43	=	,6837 ρ^{X}		— ρ^{X}	=	22,568	——	=		26,357
13	38 Arietis.....	10,83	=	,6839 ρ^{XI}		— ρ^{XI}	=	15,837	——	=		18,678
	α Tauri.....	17,55	=	,6839 ρ^{XI}		— ρ^{XI}	=	25,662	——	=		30,268
15	38 Arietis.....	11.86	=	,6842 ρ^{XII}		— ρ^{XII}	=	17,333	——	=		20,768
22	65 Arietis.....	10,48	=	,6843 ρ^{XIII}		— ρ^{XIII}	=	15,316	——	=		19,748
	α Tauri.....	14,92	=	,6843 ρ^{XIII}		— ρ^{XIII}	=	21,803	——	=		28,108

1832	From the Observations of.	We determine.										
		"						"				"
Dec. 24	65 Arietis.... .	9.99	=	,6843	ρ^{xiv}	—	ρ^{xiv}	=	14,600	and	P	= 19,224
	α Tauri..	14,47	=	,6843	ρ^{xiv}	—	ρ^{xiv}	=	21,145	——		= 28,122
25	65 Arietis..... .	8,64	=	,6840	ρ^{xv}	—	ρ^{xv}	=	12,632	——		= 16,809
	α Tauri.... ..	11,03	=	,6840	θ^{xv}	—	ρ^{xv}	=	16,126	——		= 21,461

The above results it must be confessed are highly unsatisfactory; a nearer coincidence does however appear to take place between the *individual* determinations of each Star than is found by viewing them collectively, which is better seen by the following arrangement.

Values of P, *deduced from observations made at Madras compared with the corresponding observations at the Cape.*

1832	38 Arietis.	65 Arietis.	δ Tauri.	53 Tauri.	A^1 Tauri.	F^1 Tauri.	α Tauri.
	"	"	"	"	"	"	"
November 9	.....	.....	.....	15,595	19,697	.....	14,590
15	.....	.....	21,262	20,051	.....	.....	21 972
16	.....	.....	21,204	.....	.....	.....	22,520
17	.....	.....	.....	.....	19,944	.....	.....
22	.....	.....	23,122	.....	22,027	.....	21,216
30	.....	17,707	.....	.....	.....	.....	.....
December 4	.....	12,803	.....	.....	.....	.....	20,804
5	.....	.....	.....	.....	.....	.....	*29 247
6	.....	19,784	.....	.....	.....	20,476	23 778
7	.....	19,007	.....	.....	.....	24,410	25,783
12	.....	.....	.....	.....	.....	.....	26,357
13	18 678	.....	.....	.....	.....	.....	†30,268
15	20,768	.....	.....	.....	.....	.....	.....
22	.....	19,748	.....	.....	.....	.....	28,108
24	.....	19,229	.....	.....	.....	.....	28,122
25	.....	16,809	.....	.....	.....	.....	21,461
Mean.....	19,713	17,869	21,863	17,823	20,556	22,443	23,155

When we consider that the above values are determined from the *difference of differences* (involving in extreme cases an eight fold amount of error) and that in the course of computation we have multiplied the results by a factor $\frac{100}{68}$ and by another varying from 1 to $\frac{100}{74}$, we are at no loss to account for the irregularities now found in the results of the first six Stars, since on computation it will be found that they do not involve for each single obser-

* The Cape Observation of Mars, appears to be 5" in Error.

† —— —— —— —— —— 2" ——

vation a larger probable error than 1″, an amount which might reasonably be expected; but in the case of α Tauri the disagreement assumes so determined a character that we can by no means allow that the errors incidental to observation can account for it: to comprehend this matter more clearly we will again consult the rough observations Pages 90 and 91, Vol. VI of the Royal Astronomical Society's Memoirs, whence we obtain as follows.

Difference of Declination between 53 Tauri and α Tauri as observed

at Madras. 1832	° ′ ″	*at the Cape.* 1832	° ′ ″	*at St. Helena.* 1832	° ′ ″
November 9..	4 33 47,90	October 22..	4 33 37,40	October 14..	4 33 45,20
15..	4 33 45,70	24..	4 33 39,10	15..	4 33 44,80
		25..	4 33 39,30	November 14..	4 33 44,30
		November 8..	4 33 40,30		
		9..	4 33 39,40		
		10..	4 33 39,70		
		11..	4 33 39,00		
		12..	4 33 41,50		
		13..	4 33 40,50		
		15..	4 33 39,00		
Mean.....	4 33 46,80		4 33 39,52		4 33 44,77
Diff. of Refraction.	+ 4,32		+ 12,04		+ 6,39
True Difference....	4 33 51,12		4 33 51,56		4 33 51,16

And further we have the

Difference of Declination between 38 Arietis and α Tauri as observed

at Madras. 1832	° ′ ″	*at the Cape.* 1832	° ′ ″	*at St. Helena.* 1832	° ′ ″
December 13..	3 43 55,50	December 12..	3 43 55,00	December 18..	3 43 57,00
15..	3 43 54,80	13..	3 43 55,80		
16..	3 43 55,80	22..	3 43 53,40		
18..	3 43 54,60	23..	3 43 52,30		
		24..	3 43 52,40		
		25..	3 43 51,30		
Mean.....	3 43 55,17		3 43 53,37		3 43 57,00
Diff. of Refraction.	+ 3,27		+ 9,69		+ 5,00
True Difference....	3 43 58,44		3 44 3,06		3 44 2,00

Moreover we have the

Difference of Declination between 65 Arietis and α Tauri as observed

at Madras. 1832	°	′	″	*at the Cape.* 1832	°	′	″	*at St. Helena.* 1832	°	′	″
December 4..	4	2	11,30	November 30..	4	2	8,00	November 30..	4	2	14,10
6..	4	2	12,30	December 1..	4	2	9,40	December 1..	4	2	13,80
7..	4	2	11,00	3..	4	2	6,50	4..	4	2	14,80
20..	4	2	9,30	4..	4	2	9,60	5..	4	2	15,10
21..	4	2	9,90	5..	4	2	6,70	6..	4	2	14,00
22..	4	2	10,55	6..	4	2	8,30	18..	4	2	13 30
24..	4	2	9,30	7..	4	2	8,40	19..	4	2	11,40
25..	4	2	12,00	8..	4	2	7,60				
				9..	4	2	6,70				
				10..	4	2	7,60				
Mean.....	4	2	10,70		4	2	7,88		4	2	13,79
Diff. of Refraction.		+	3,84			+	10,56			+	5,47
True Difference....	4	2	14,54		4	2	18,44		4	2	19,26

In each of the above cases, the observations having been made at nearly the same time of the year, the difference of the corrections for aberration, &c. will be very nearly common for the result obtained at each Observatory, and for the present enquiry may be disregarded altogether: Examining the "true difference" the agreement between the results at the Cape and those at St. Helena, affords us good reason for supposing them accurate, and for employing them as standards of comparison. If we accordingly compare the Madras "True difference" with that found from

We determine.	*The Cape Observations.* ″	*The St. Helena Observations.* ″
$e + e^{I}$	= − 0,44	− 0,04
$e + e^{II}$	= − 4,62	− 3,56
$e + e^{III}$	= − 3,90	− 4,72

Taking the mean we have:

$e + \frac{e^{I} + e^{II} + e^{III}}{3}$	= − 2,98	− 2,77

In the above, e represents the error of division for α Tauri, e^{I} that for 53 Tauri, &c. Here (in the case of divisions situated within 3° or 4° of each

other) it appears plain, that if we could obtain a sufficient number of results; the values e^{I} e^{II}, &c. occurring as they no doubt do with contrary signs, we could determine e to any required degree of accuracy; even with the very limited number we already possess *it appears exceedingly probable that the divisions 73° 50′ and 73° 55′ of the Madras Mural Circle are erroneous to the amount of two seconds*, and comparing the mean place of α Tauri from 146 Observations made at Madras, with the Greenwich place from three times that number of observations, I find a difference = — 1″,71 which so strongly supports the above conjecture that for the present it becomes necessary to suppress altogether the results obtained from α Tauri; were however the circumstances different; the distance of this Star from the Planet Mars (4° ±) would have rendered it questionable if its result ought to be admitted. Taking the mean of the remaining 19 Observations we determine P = 19″,595.

Since writing the above —— signing as it were the death warrant of the Madras Observations; with a firm conviction that the discordances found in the place of α Tauri did not arise from error of division I have proceeded as follows.

Error of Division of the Madras Mural Circle.

About two years ago I made a set of experiments to ascertain the amount of error in the division of the Madras Mural Circle; having transmitted copy of these observations to England for publication, it is only necessary for me here to remark, that in the course of an examination of every 5th degree; I met with no error which could affect the mean of the four readings to the amount of one second: Now the divisions 69° 50′, 70° 10′ and 73° 55′ on which 56 Arietis, 38 Arietis and α Tauri were respectively observed, not having fallen under this examination, it still becomes necessary, either to admit the remarks at lines 4 — 6; or by a direct appeal to those divisions to ascertain their *actual* amount of error; pursuing the latter course I have adopted a plan on the present occasion similar to that contrived for the above-mentioned examination, which I will now proceed to explain. In the discription of the Madras Mural Circle given in the 1st Volume of these results, it is stated, that "the Telescope is attached to the circular ring at each end by appropriate braces, each secured by four strong screws; and is further supported in the middle, by an axis (represented by dotted lines fig. 1) which passes through the axis of the circle, and is secured by a screw C affixed to its smaller end;" from this description it will appear plain that the screws at each end of the Telescope which serve to secure it to the circular ring being loosed; the Telescope is free to turn upon its axis independent of the circle;

by which property we are enabled to measure any angle upon any required divisions, by merely shifting the place of the Telescope upon the ring. To obtain an object which could be distinctly viewed through an Astronomical Telescope, (in which the eye piece is required to be adjusted to the Solar focus,) I availed myself of the well known property of the rays of light, which, diverging from the principal focus of an object glass, after passing through the object glass are transmitted as parallel rays; and hence possess the property of an object placed at an infinite distance; but to be particular; I placed Dolland's 5 feet Achromatic Telescope about 5 feet in front (to the North) of the Mural Circle, with its object glass *vis a vis* to the object glass of the Mural Circle Telescope, and its whole length so disposed that a line passing through the centre of the one Telescope, being continued, would equally pass through the centre of the other: I now rested another Telescope (a 46 Inch Achromatic by Dolland) immediately above the first named Telescope, by means of two pieces of wood A, B, (see fig.) of such dimensions, that the angle subtended by the two Telescopes was nearly that which I required, and such that the Mural Circle Telescope being directed to the said upper Telescope; a line passing through the centre of the one if continued would equally pass through the centre of the other; matters thus arranged I introduced into the principal focus of the upper Telescope a pair of cross lines, which by means of a light placed behind them, were very distinctly seen by the Circle Telescope, and were adjusted to horizontality;—moving the circle and its attached Telescope through the angle subtended by the two Telescopes; a similar pair of lines which had been fitted into the micrometer attached to the lower Telescope now came into view, and the angle formed by the two Telescopes was thus read off from the circle; as this angle did not at first agree with that which was required, the micrometer screw of the lower Telescope enabled me to adjust it to any required degree of accuracy. The Circle was made to read off 70° 10′ 35″ (the reading at which 38 Arietis (Page 91) was observed and clamped; the Telescope being released from the circle, was directed to the wires of the *lower Telescope* very nearly, again clamped, and an accurate bisection of them made by the moveable wire of the circle Telescope; the circle was now very carefully read off and the bisection of the cross wires again examined and if necessary improved; unclamping the circle, it was with its now attached Telescope moved to view the cross lines of the upper Telescope, of which an accurate bisection was made and the circle again read off; here the reading was (73° 54′ 25″ ±); —as nearly as need be that which was employed in the observations of *a* Tauri (Page 91), consequently any error arising from ill division which may be attached to the measured difference of declination of these two Stars as found at Page 122, will equally affect the measure of the angle between

the two Telescopes *(collimators)* above described; to ascertain its amount I have measured the above angle between the two collimators on several sets of divisions as follows.

Angular inclination of the two Telescopes on the 2d September 1834, as measured by the Mural Circle, on the divisions employed in the observations of a Tauri and 38 Arietis, together with the measurement of the same upon sundry other divisions.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by					
							Divisions 70° 10′ and 73° 54′.			Sundry Divisions.		
°	′	″	″	″	″	″	°	′	″	°	′	″
70	10	36,1	42,1	49 0	40,4	41,90	3	43	52,50			
73	54	28,5	34,5	42,6	32,0	34,40						
80	11	11,3	20,0	15,7	16,0	15,75	.....			3	43	52,65
83	55	0,6	10,7	14,5	7,8	8,40						
80	11	11,9	20,3	16,5	17.0	16 42	.....			3	43	52,28
83	55	0,6	11 6	14,0	8,6	8 70						
90	11	9.3	13,3	18,5	13,2	14,08	.....			3	43	51,42
93	54	59,3	5,6	12,0	5,1	5,50						
100	11	9,8	15,0	17,2	15,2	14.30	.....			3	43	52,37
103	55	0,4	9,5	11,3	5.5	6,67						
70	10	36,8	43,8	49 0	41,5	42 78	3	43	52,42			
73	54	29,4	36,1	41,3	34,0	35,20						
70	10	31,0	37,2	43,0	36,4	36,90	3	43	52,35			
73	54	22,2	28,0	35,0	31,8	29,25						
80	11	6,1	14,5	10,3	11,0	10,47	.....			3	43	52,65
83	54	55,6	6,4	8 5	2 0	3,12						
90	11	13,9	18,1	22,0	16,3	17.57	.....			3	43	50,35
93	55	3,0	8,8	12,0	7,9	7,92						
100	11	9,1	15,1	15.3	13,2	13,17	.....			3	43	51,73
103	54	59,8	5 0	8,8	6,0	4,90						
110	11	6,9	12,4	13,3	11,8	11,10	.....			3	43	52,15
113	54	57,4	4,0	6,8	4,7	3,25						
120	11	6 2	12,1	6,5	14,0	9 70	.....			3	43	51,75
123	54	58,6	1,9	3,8	1,5	1,45						
130	11	10,1	12,1	13,3	11,0	11.62	.....			3	43	52,05
133	55	0,3	4,4	7,2	2,8	3,67						
140	11	9 8	13,5	15,3	10,5	12,40	.....			3	43	51,97
143	55	1,2	6,0	7,2	3,1	4,37						
150	11	0,0	3 0	6,0	1,2	2,55	....			3	43	51,02
153	54	50.4	53,2	57,0	53,7	53,57						
70	10	36 0	41,1	44,8	40,2	40,52	3	43	51.88			
73	54	28,0	33,9	37,0	30,7	32,40						
						Mean....	3	43	52,29	3	43	51,87

The Telescopes were allowed to remain undisturbed and on the 3d September 1834, the following measures were taken.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by					
							Divisions 70° 10′ and 73° 54′.			Sundry Divisions.		
°	′	″	″	″	″	″	°	′	″	°	′	″
70	10	39,9	47,0	47,3	44,3	44,62						
73	54	30,0	37,9	34,0	34,2	34,52	3	43	49,90			
70	10	38,2	44,5	45,3	43,2	42,80						
73	54	27,7	33,6	34 5	32,5	32,07	3	43	49,27			
80	11	14,2	21,2	16,5	18 7	17,65						
83	55	1,9	9 5	9,0	8 0	7,10	.....			3	43	49,45
90	11	12,0	16,6	15.6	14,7	14,72						
93	55	0 2	5,1	5,8	4,8	3,97	.....			3	43	49,25
100	11	12 0	17,9	15,7	16,0	15,40						
103	55	0,0	7,4	5,0	5,2	4,40	.....			3	43	49,00
110	11	12 1	16,4	15,4	16;6	15,12						
113	55	0 0	8,0	4,5	6,3	4,70	.....			3	43	49,58
120	11	11.9	17,2	15,5	13,2	14,45						
123	55	1,1	6,6	3,8	5,4	4,22	.....			3	43	49,77
130	11	14,1	16,1	13,2	14,5	14,47						
133	55	1,3	4 5	3,0	5,0	3,45	.....			3	43	48,98
140	11	12,9	15,5	12,0	14,3	13,68						
143	55	0,2	7,5	2,0	4,0	3,42	.....			3	43	49,74
150	11	11,6	14,4	13,0	14,6	13,40						
153	55	0,5	5,4	3,2	4,3	3,35	.....			3	43	49,95
70	11	49,2	54,5	54,0	53,2	52,72						
73	54	38,9	44,2	43,3	42,5	42,22	3	43	49,50			
80	11	12,0	19,2	16,2	16,5	15,97						
83	55	0,1	9,5	6,6	6,8	5,75	.....			3	43	49,78
90	11	12,4	19,4	16,2	15,8	15,95						
93	55	0,3	6,5	5,0	4,8	4,15	.....			3	43	48,20
100	11	13,1	16,6	14.6	15,3	14,90						
103	55	0,2	6,5	3,7	4,8	3,80	.....			3	43	48,90
110	11	12,6	17,8	15,8	17,6	15,95						
113	55	0,0	6,2	4,3	6.0	4 12	.....			3	43	48,17
120	11	12,2	16,0	15,3	13,8	14 32						
123	55	0,8	4,5	5,7	4,0	3,75	.....			3	43	49,43
130	11	12,0	13,5	11,6	14,1	12,80						
133	55	0,7	4,6	2,2	3,8	2,82	.....			3	43	50,02
140	11	12,5	16,5	12,0	13,8	13,95						
143	55	0,8	7,3	3,7	4,3	4,02	.....			3	43	50,07
153	11	11,8	14,4	13,7	14,8	13,68						
153	55	0,8	5,2	3 7	4,8	3,62	.....			3	43	49,94
70	11	40 5	46,0	45,0	44,3	43,95						
73	54	29,8	35,3	33,6	32,7	32,85	3	43	48,90			
70	11	39,1	46,0	44 0	43,8	43,22						
73	54	29,0	34,1	32,5	32,7	32,08	3	43	48,86			
						Mean....	3	43	49,48	3	43	49,39

The change of 3″ in the angle between the observations of September 2d and 3d, no doubt arises from a shrinking of the wooden supports; this however is of no consequence in our present enquiry, since we only require that the angle should remain fixed during the observations of the day, or for the space of an hour which (with one assistant stationed at each microscope) was the time employed on each day.

The angle was now increased to 4° 2′ 8″ nearly; and its exact quantity measured upon the divisions 69° 50′ and 73° 50′ (these being the divisions at which 65 Arietis and *a* Tauri were respectively observed), and upon sundry other divisions as follows.

6th September.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by					
							Divisions 70° 10′ and 73° 54′.			Sundry Divisions.		
°	′	″	″	″	″	″	°	′	″	°	′	″
69	49	14,1	24,8	17,3	23,0	19,80	4	2	7,05			
73	51	23,9	28,1	25,8	29,6	26,85						
79	49	15,8	23 9	18,0	19,5	19,30	.....			4	2	5,98
83	51	21,2	28,5	24,6	26,8	25,28						
89	49	14,7	22,7	20,3	20,5	19,55	.....			4	2	7,23
93	51	23,2	29,2	26,1	28,6	26,78						
99	49	15,4	22,5	17,3	20,2	18,85	.....			4	2	6,80
103	53	23,1	28,6	25,1	25,8	25.65						
109	49	15,8	23 5	18 0	21,4	19 68	.....			4	2	7,07
113	53	24,4	28,6	24 8	29,2	26,75						
119	49	11,0	17,6	14 6	14 4	14.40	.....			4	2	6,85
123	53	18,4	23,2	20,7	22,7	21,25						
129	49	13,9	19,4	13,2	18,2	16,18	.....			4	2	7,34
133	53	21,8	25,2	21,1	26,0	23,52						
139	49	14,1	18 2	13,4	19,0	16,18	.....			4	2	7,14
143	53	21,6	26,0	20,7	25,0	23,32						
149	49	17,2	22,4	18 2	19 9	19,42	.....			4	2	7,38
153	53	26,4	28,0	25,0	27,8	26,80						
69	49	15,0	22.6	19,2	21,5	19 58	4	2	7,67			
73	51	26,3	28,4	25,8	28,5	27,25						
						Mean....	4	2	7,36	4	2	6,97

7th September.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by					
							Divisions 70° 10′ and 73° 54′.			Sundry Divisions.		
°	′	″	″	″	″	″	°	′	″	°	′	″
69	49	16,0	25,3	21,4	26,1	22,20	4	2	8,65			
73	51	28,0	33,9	29,1	32,4	30,85						
79	49	16,2	25,0	19,1	23,1	20,85	.....			4	2	7,90
83	51	23 3	31,9	28,3	31,5	28,75						
89	49	15,4	24,5	20,9	22,8	20,90	.....			4	2	7,80
93	51	25,0	32,4	27,3	30,1	28,70						
99	49	15 2	23,6	17 0	21,2	19,25	.....			4	2	8,80
103	53	25,0	32,2	26,0	29,0	28,05						
109	49	15,6	24 0	17,1	22,0	19,67	.....			4	2	7,98
113	53	24,0	32,0	24,5	30,1	27,65						
119	49	15,2	22,6	18 6	21,0	19,35	.....			4	2	8,47
123	53	25,4	31,0	26,1	28,8	27,82						

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by					
							Divisions 70° 10′ and 73° 54′.			Sundry Divisions.		
°	′	″	″	″	″	″	°	′	″	°	′	″
129	49	17,7	24,4	18,6	21,9	20,65						
133	53	26,0	30,8	25,3	29,1	27,80	.....			4	2	7,15
139	49	15,0	18,6	13,0	18,0	16,16						
143	53	23,1	29,0	21,2	26,0	24,82	.....			4	2	8,67
149	49	14,2	21,5	15,3	15,4	16,60						
153	53	24,2	29,2	23,1	25,7	25,55	.....			4	2	8,95
69	49	15,8	24,6	19,1	23,8	20,82						
73	51	28,7	32 2	28,0	30,1	29,75	4	2	8,93			
69	49	15 9	25,0	20,2	23,7	21,20						
73	51	27,7	32,5	27,6	29,1	29,25	4	2	8,05			
						Mean....	4	2	8,54	4	2	8,22

Hence it appears that the angular distance between 38 *Arietis* and *a Tauri* as observed at Madras (Page 122) is erroneous by reason of error of division.

From the observations of	*to the amount.* ″
2d September 1834.....	+ 0,42
3d —— 1834.....	+ 0,09
Mean.....	+ 0,25

It further appears that the angular distance between 65 *Arietis* and *a Tauri* as observed at Madras (Page 123) is erroneous by reason of error of division.

From the observations of	*to the amount.* ″
6th September 1834.....	+ 0,39
7th —— 1834.....	+ 0,32
Mean.....	+ 0,35

The above results, whilst they leave nothing to be desired with regard to the division of the circle, still leave unexplained the discordant results of Page 123; they do not as we have seen arise from error of division in the Madras Mural Circle, and it is *highly improbable* that the Cape or St. Helena Instruments can err from error of division to this amount (4″ +). From a comparison of numerous observations of N. P. D. with the mean result, I find that the mean error of a single observation is considerably less than 1″, but allowing it to equal this amount, and making a further liberal allowance for

possible errors, we can in no way make up the amount of 4″ +. For the present I am compelled to allow this singular and unexpected anomaly to remain unexplained, but venture to hope that in the next Volume of these observations I shall be enabled to offer some sort of conclusion as to its cause.

Error of Observation; Parallax of α Aquilæ.

With reference to the remarks at Page 129, I had here proposed to give the result of each single observation of the North Polar Distance of one or more of the principal fixed Stars, by way of exhibiting the extent of error committed in this nature of observation; and had commenced for the purpose an examination of the catalogue, to ascertain which Star had been most frequently observed; when the recollection of the reputed annual parallax of α Aquilæ led me to select this Star, and to join to my original enquiry the question of parallax; I must however remark, that the observations which now follow having been made simply for the purpose of determining the Index Error of the Mural Circle and the place of the Star, are not so numerous, or so well disposed for the determination of Parallax as under other circumstances they might have been; if π represent the semiaxis minor of the Earth's orbit (supposed to be a circle) as viewed from α Aquilæ, and λ the Latitude of the Star; we have the semiaxis major or $\rho = \cos.(\text{Long.} \odot - \text{Long.} *) \frac{\pi}{\sin. \lambda}$ nearly: selecting now the observations which are situated near to the positive and negative maximum of Parallax, we have as follows.

1831		N. P. D. from Circle Book.	Refraction.	Aberration, &c.	Index Error.	Annual Precession.	Mean N. P. D. January 1, 1832.
		° ′ ″	″	″	′ ″	″	° ′ ″
February	1	81 35 58 0	+ 4,43	+ 0.78	— 1 45,77	— 8,67	81 34 8 77 + ,486 ρ
	2	81 35 58,7	+ 4.42	+ 0 71	— 1 46,47	....	81 34 8,69 + ,484 ρ
	3	81 36 0,5	+ 4.42	+ 0,64	— 1 47,29	....	81 34 9,60 + ,482 ρ
	7	81 36 0,3	+ 4,43	+ 0,35	— 1 46,58	....	81 34 9,83 + ,471 ρ
	8	81 36 0,9	+ 4,41	+ 0,27	— 1 46,58	....	81 34 10,33 + ,468 ρ
	10	81 36 1.4	+ 4,41	+ 0,12	— 1 46,80	....	81 34 10,46 + ,462 ρ
	12	81 36 0,4	+ 4,42	— 0,22	— 1 46,96	....	81 34 8,97 + ,456 ρ
	13	81 35 59,3	+ 4,41	— 0,39	— 1 47,14	....	81 34 7,51 + ,451 ρ
	14	81 36 0,8	+ 4,41	— 0 55	— 1 47,14	....	81 34 8,85 + ,448 ρ
	15	81 36 1,7	+ 4.40	— 0,71	— 1 46,50	....	81 34 10,22 + ,444 ρ
	18	81 36 1,2	+ 4,38	— 1,18	— 1 46,57	....	81 34 9,16 + ,431 ρ
	21	81 36 1,4	+ 4,39	— 1,70	— 1 46,95	....	81 34 8,47 + ,416 ρ
	23	81 36 0,2	+ 4,40	— 2,02	— 1 46,89	....	81 34 7,02 + ,406 ρ
	24	81 36 1,4	+ 4,39	— 2,11	— 1 46,89	....	81 34 8,12 + ,401 ρ
	27	81 36 2,8	+ 4,40	— 2,43	— 1 48,03	....	88 34 7,07 + ,386 ρ

1831		N. P. D. from Circle Book.			Refraction.		Aberration, &c.		Index Error.		Annual Precession.		Mean N. P. D. January 1, 1832.				
		°	′	″		″		″		′ ″		″	°	′	″		
March	1	81	36	2,3	+	4,42	—	2,58	—	1 47,49	—	8,67	81	34	7,98	+	,375 ρ
	2	81	36	2,3	+	4,42	—	2 66	—	1 47,49		....	81	34	7,90	+	,369 ρ
	3	81	36	3,3	+	4,43	—	2,73	—	1 46,83		....	81	34	9,50	+	,363 ρ
	4	81	36	2,2	+	4,48	—	2,81	—	1 46,83		....	81	34	8,37	+	,357 ρ
	5	81	36	3 4	+	4,46	—	2,89	—	1 47,67		....	81	34	8 63	+	,351 ρ
	6	81	36	2,6	+	4,45	—	2,96	—	1 47 67		....	81	34	7,75	+	,345 ρ
	7	81	36	2,3	+	4 42	—	3,03	—	1 46 98		....	81	34	8,04	+	,338 ρ
	13	81	36	3,0	+	4.40	—	3,32	—	1 47,14		....	81	34	8,27	+	,305 ρ
	15	81	36	2,9	+	4,40	—	3,37	—	1 46,42		....	81	34	8,84	+	,291 ρ
1832																	
February	20	81	37	11,1	+	4,37	—	4,48	—	3 2,03		0,00	81	34	8 96	+	,423 ρ
	27	81	37	26,7	+	4 42	—	4,98	—	3 16,37		....	81	34	9 77	+	,387 ρ
	29	81	37	24 9	+	4,44	—	5,12	—	3 16,37		....	81	34	7,85	+	.375 ρ
March	1	81	37	25,9	+	4.45	—	5,19	—	3 16,37		....	81	34	8,81	+	.369 ρ
	2	81	37	24,1	+	4,45	—	5,26	—	3 16,37		....	81	34	7,94	+	,364 ρ
	3	81	37	25.3	+	4,44	—	5,33	—	3 16.37		....	81	34	8,06	+	,359 ρ
	6	81	37	25,7	+	4,43	—	5 52	—	3 15,25		....	81	34	9,38	+	,341 ρ
	8	81	37	26 7	+	4,42	—	5 65	—	3 15,55		....	81	34	9,92	+	,327 ρ
	9	81	37	25,7	+	4,44	—	5,71	—	3 15 55		....	81	34	8,92	+	,320 ρ
	11	81	37	38,2	+	4,44	—	5,77	—	3 27,81		....	81	34	9 06	+	,307 ρ
	12	81	37	38,5	+	4 44	—	5,81	—	3 28,16		....	81	34	8,97	+	,300 ρ
	13	81	37	37,6	+	4 45	—	5 85	—	3 28,48		....	81	34	7,72	+	,293 ρ
	15	81	37	38,0	+	4,45	—	5,93	—	3 28,48		....	81	34	8,04	+	,279 ρ
December	21	81	41	10,6	+	4,42	+	11,16	—	7 17,71		....	81	34	8,47	+	,433 ρ
1833																	
January	3	81	36	59,6	+	4.43	+	0,30	—	3 5,36	+	8,67	81	34	7,64	+	,479 ρ
	5	81	37	0,9	+	4,44	—	0,05	—	3 6,05		....	81	34	7,91	+	.484 ρ
	6	81	37	0.4	+	4,44	—	0,22	—	3 4,56		....	81	34	8.73	+	,486 ρ
	7	81	37	0 7	+	4,44	—	0,39	—	3 4,56		....	81	34	8,86	+	,488 ρ
March	16	81	35	40,5	+	4,44	—	8,95	+	1 36,48		....	81	34	8,18	+	,272 ρ
1831																	
July	13	81	37	13,8	+	4,34	+	12,41	—	3 10,66		....	81	34	11.22	—	,495 ρ
	16	81	37	5,3	+	4 38	+	12,97	—	3 4,70	—	8,67	81	34	9,28	—	,497 ρ
	17	81	37	7,2	+	4,35	+	13,14	—	3 4.70		....	81	34	9,32	—	,498 ρ
	28	81	37	15,5	+	4,32	+	15,02	—	3 15,61		....	81	34	11,54	—	,497 ρ
August	10	81	37	12,5	+	4 33	+	16,98	—	3 16,38		....	81	34	9,76	—	,474 ρ
	11	81	37	12,7	+	4,33	+	16,86	—	3 16.38		....	81	34	9,84	—	,471 ρ
	22	81	37	11,6	+	4,34	+	18.42	—	3 16,43		....	81	34	10,76	—	,432 ρ
	23	81	37	11,1	+	4.33	+	18,53	—	3 15,51		....	81	34	9.78	—	,429 ρ
	26	81	37	11,1	+	4,36	+	18,85	—	3 15,55		....	81	34	10,09	—	,420 ρ
1833																	
August	5	81	35	12,8	+	4,34	+	10,55	—	1 26,38		....	81	34	9,97	—	,486 ρ
	6	81	35	11,7	+	4.34	+	10,69	—	1 26,38	+	8,67	81	34	9,02	—	,484 ρ
	7	81	35	12 1	+	4,33	+	10,82	—	1 26,38		....	81	34	9,54	—	,482 ρ
	16	81	35	10,3	+	4,34	+	11,99	—	1 26,38		....	81	34	8,92	—	,456 ρ
	29	81	35	9,2	+	4,36	+	13,36	—	1 26,84		....	81	34	8,75	—	,401 ρ
	30	81	35	8,3	+	4,36	+	13 43	—	1 26,66		....	81	34	8,10	—	,396 ρ
September	5	81	35	7,8	+	4,35	+	13,89	—	1 26,66		....	81	34	8,05	—	,363 ρ
	8	81	35	6,2	+	4,35	+	14,12	—	1 26,46		....	*81	34	6,88	—	,346 ρ

* This is omitted in taking the mean.

1833	N. P. D. from Circle Book.	Refraction.	Aberration, &c.	Index Error.	Annual Precession.	Mean N. P. D. January 1, 1832.
	° ′ ″	″	″	′ ″	″	° ′ ″
September 10	81 35 9,8	+ 4,35	+ 14,27	— 1 28,55	....	81 34 8,54 — ,334 ρ
11	81 35 9,5	+ 4,34	+ 14,32	— 1 28,55	....	81 34 8,28 — ,327 ρ
12	81 35 9,8	+ 4,36	+ 14,37	— 1 28,55	....	81 34 8 65 — ,321 ρ
13	81 35 9,3	+ 4,36	+ 14,42	— 1 28,55	....	81 34 8 20 — ,314 ρ
15	81 35 10,6	+ 4,34	+ 14,51	— 1 28,55	....	81 34 9,57 — ,300 ρ

Taking the mean we have:

	Mean N.P.D. January 1, 1832.
	° ′ ″
From 24 Observations in the Winter of 1830-1831 ——	81 34 8,682 + ,408 ρ
From 13 —— —— —— 1831-1832 ——	81 34 8,723 + ,342 ρ
From 6 —— —— —— 1832-1833 ——	81 34 8,298 + ,440 ρ
From 9 —— —— Summer of 1831 ——	81 34 10,177 — ,468 ρ
From 12 —— —— —— 1833 ——	81 34 8,900 — ,389 ρ

$\therefore \rho = 0'',978$

or the angle under which the Earth's orbit is seen at α Aquilæ* $= 1'',96$. Considering the disagreement which is found to exist between the numerous results of the Greenwich and Dublin Instruments when applied to the determination of the Parallax of α Aquilæ, it would appear that the above result as far as the determination of parallax is concerned, is entitled to very little if any credit; one circumstance however will be found to affect *these* observations which goes far to diminish the weight of this objection. It must be recollected that in the Latitude of Greenwich the meridian altitude of α Aquilæ is about 47° and that it arrives at the positive and negative maximum of parallax in the middle of Winter and in the height of Summer respectively, whereby a considerable uncertainty exists as to the amount of Refraction; in the case of the Madras Observations however, the meridian altitude being 85° and the variation of temperature at the times of the Star arriving at the + and — maximum amounting to little or nothing, no such uncertainty exists. With regard to error of observation the above speak so well for themselves that it is unnecessary for me to offer any further remarks.

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* From a few very accordant Transit Observations the Parallax of α Aquilæ comes out $0'',49$, or the diameter of the Earth's orbit viewed from α Aquilæ $= 0'',98$: these it will be as well to reserve for a future opportunity when a greater number of observations shall have been made.

PLACES OF THE FIXED STARS.

At the commencement of my Superintendance of the Madras Observatory in 1830, I selected for observation a Catalogue of about 1200 of the brightest Stars, from the Catalogue of 2881 given in the 2d Volume of the Memoirs of the Royal Astronomical Society, and set to work, intending to make at least five Observations of each Star: towards the end of 1831, finding that the greater part of this Catalogue was then already completed, I determined to extend my observations to the remaining Stars of the Society's Catalogue, and to devote the Instruments during the years 1832 and 1833 solely to this purpose; the result of the three years observation are given in the pages which follow reduced to January 1, 1832. It may at first sight appear superfluous that the result of the observations for 1831 which have already been given in Vol. I. should again appear in the present work; but several of the Stars observed in 1831 having been again observed in 1832 and 1833, it became necessary to state the former results in order to obtain the mean of *all* the observations; added to which, the peculiar circumstances to which the Transit Instrument has been subject (by reason of the very rapid and unequal wear of the pivots, and the meridian marks having undergone a change of position), renders it desirable that the nature of the agreement between the observations of one year and another should be distinctly pointed out.

It will be noticed that I have retained *all the names*, and consequently the same *numbers*, as given in the Society's Catalogue, notwithstanding that from twenty to thirty Stars (from being situated near the South Pole) are invisible at Madras, and that about double of that number have not been observed at either the Transit or the Mural Circle; my reason for so doing was for the sake of uniformity and facility of reference, and to allow me to fill up the blanks with a pen from the observations of 1834 and 1835.

The magnitudes and Annual Precessions* are copied from the Society's Catalogue: the *Greenwich place* is derived from the Catalogue of 720 Stars for 1830; in which the place of the equinox is assumed Dr. Maskelyne + 0″,20, *and it is from this point which the places in this Catalogue are likewise*

+ Where an asterisk is attached to the Annual Precession it denotes, that the proper motion exceeds 0,5*s*. of *space* (according to M. Piazzi) and that it is included with the precession.

reckoned. Under the head "No. 1831", "No. 1832", &c. is found the number of observations made in each year, and the corresponding mean result on the supposition that the pivots remained unaltered during the three years; to make the requisite correction, we must have recourse to the table at Page 8 and proceed as follows—thus for α Cassiopeæ N. P. D. 45° 34′ which was observed at the commencement of 1832 and 1833, we find:

From Observations in	Mean Place January 1, 1832.			Correction.					No. of Obs.		
	h.	*m.*	*s.*	*s.*	*s.*						*s.*
1831.....	0	31	1,42	+ 0,00	= 1,42	×	12	=	17,04		
1832.....	0	0	1,24	+ 0 04	= 1,28	×	20	=	25 60		
1833.....	0	0	1,09	+ 0,09	= 1,18	×	28	=	33,04		
					Sum		60		75,68		

$$\frac{\text{Sum}}{\text{No. of Observ.}} = \frac{75\,68}{60} = 1'',26$$

The place thus deduced is set down in column "Mean", and compared with the Greenwich, and the Astronomical Society's Catalogue.

The column "Mean N. P. D." is derived from the three preceding columns in the usual way with reference to the number of observations; the Greenwich N. P. D. is derived from the Catalogue of 720 Stars for 1830, increased by two years precession, and reduced by the table Vol. I. Pages 62 and 147, in order to render the results which were computed by Bradley's table of Refractions, in terms of Atkinson's: this Catalogue rests upon the supposition that the Latitude of the Greenwich Royal Observatory deduced from Bradley's table of Refraction = 51° 28′ 39″,00.

A

GENERAL CATALOGUE

OF THE

PRINCIPAL FIXED STARS

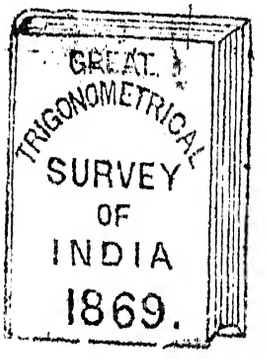
FROM

OBSERVATIONS AT THE MADRAS OBSERVATORY

IN THE YEARS 1831, 1832 AND 1833,

COMPARED WITH

THE GREENWICH, AND ASTRONOMICAL SOCIETY'S CATALOGUE.



No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1	7	Ceti	2	6,82	5	6,79		———	0 0 6,80		6,45		+0,35	+3,068
2	2.3	11 Cassiop. β	6	15,55		———		———	0 0 15,55	15,71	14,73	—0,16	+0,82	3,124*
3	6	87 Pegasi μ		———	5	23,10		———	0 0 23,10		22,46		+0,64	3,069
4	6	AppSculp κ1	1	46,56	2	46,68	4	46,68	0 0 46,64		46,07		+0,57	3,066
5	4	Phœnicis ε	6	51,81		———		———	0 0 51,81		51,51		+0,30	3,063
6	7	Piscium		———		———	5	19,05	0 1 19,05					
7	6	34 Piscium E1		———		———	6	24,70	0 1 24,70		18,63		+0,42	3,068
8	5	22 Androm B	5	37,04		———		———	0 1 37,04		23,93		+0,77	3,069
9	6.7	Ceti		———	5	42,92		———	0 1 42,92		36,98		+0,06	3,077
10	5	Octantis γ3		———		———		———	Invisible		42,54		+0,38	3,067
11	6	6 Ceti f		———	4	42,72		———	0 2 42,72		10,01		———	2,967
12	5.6	AppSculp κ2	6	1,77		———		———	0 3 1,77		42,05		+0,67	3,064
13	2.3	88 Pegasi γ	12	35,66	24	35,69	16	35,74	0 4 35,69		1,65		+0,12	3,059
14	6	89 Pegasi χ	2	55,09	3	55,37		———	0 5 55,26	35,71	35,51	—0,02	+0,18	3,075
15	5.6	7 Ceti h		———	5	6,26		———	0 6 6,26		54,95		+0,31	3,080
16	6	35 Piscium B		———	5	20,02		———	0 6 20,02		5,86		+0,40	3,055
17	6.7	36 Piscium		———	5	56,61		———	0 7 56,61		19,60		+0,42	3,073
18	5	24 Androm θ	6	20,26		———		———	0 8 20,26		55,85		+0,76	3,074
19	6.7	33 Piscium	6	10,31		———		———	0 9 10,31		19,48		+0,78	3,105
20	4	8 Ceti ι	6	52,14	5	52,16	2	52,22	0 10 52,16	52,15	9,89		+0,42	3,069
21	5	Tucanæ ζ	6	15,80		———		———	0 11 15,80		51,75	+0,01	+0,41	3,057
22	6	40 Piscium	2	16,03	5	15,92		———	0 11 15,95		12,83		+2,97	2,923
23	5.6	41 Piscium d	4	57,47	7	57,66	5	57,58	0 11 57,59	57,60	15,22		+0,73	3,086
24	6	Ap. Sculp ι		———	6	4,26		———	0 13 4,25		57,82	—0,01	—0,23	3,077
25	6	9 Ceti	6	15,10		———		———	0 14 15,10		4,00		+0,25	3,025
26	6.7	Ceti									15,22		—0,12	3,049
27	3	Hydri β	1	54,79	5	54,88	2	55,07	0 15 54,91		54,67		+0,24	3,063
28	6	44 Piscium t	7	47,63		———		———	Invisible		37,97		———	2,606
29	6	45 Piscium		———		———		———	0 16 47,63		47,19		+0,44	3,070
30	5	Phœnicis κ	5	55,61	6	2,68		———	0 17 2,68		2,01		+0,67	3,080
31	2	Phœnicis α	6	57,86	11	57,84		———	0 17 55,61		54,29		+1,32	2,966
32	6	10 Ceti		———	5	0,78	4	0,75	0 17 57,84		57,21		+0,63	2,970
33	6	47 Piscium		———	3	18,05	3	18,26	0 18 0,77		0,40		+0,37	3,066
34	6	48 Piscium	6	29,83		———		———	0 19 18,15		17,76		+0,39	3,102
35	6	28 Androm	3	16,42	2	16,60		———	0 19 29,83		28,96		+0,87	3,099
36	6	Ceti		———	6	21,04		———	0 21 16,51		15,95		+0,56	3,136
37	6	12 Ceti π		———	5	28,17	2	28,20	0 21 21,04		20,23		+0,81	3,033
38	6	Ceti		———	6	58,44		———	0 21 28,18		27,77		+0,41	3,057
39	5	14 Cassiopeae λ	6	32,86		———	2	32,67	0 21 58,44		58,39		+0,05	3,009
40	5	Phœnicis λ1	6	17,64		———		———	0 22 32,83		32,00		+0,83	3,245
41	4	15 Cassiopeae ν	5	30,89		———		———	0 23 17,64		16,68		+0,96	2,909
42	6.7	51 Piscium		———	5	44,17		———	0 23 30,89	30,79	29,80	+0,10	+1,09	3,324
43	6	52 Piscium		———	5	47,94		———	0 23 44,17		43,80		+0,37	3,083
44	4	Tucanæ β1	6	48,36		———		———	0 23 47,94		47,36		+0,58	3,116
45	4	Tucanæ β2		———	3	49,35		———	0 23 48,36		48,41		—0,05	2,786
									0 23 49,22		48,77		+0,45	2,786

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1		——		——	4	9 25,31	93 9 25,31		9 25,79		— 0,48	—20,043
2	5	46 37,06	4	46 36,52		——	31 46 36,82	46 37,91	46 39,46	—1,09	— 2,64	20,043
3		——		——	4	43 16,97	72 43 16,97		43 19,12		— 2,15	20,043
4		——		——	5	55 20,45	118 55 20,45		55 23,01		— 2,56	20,043
5	5	40 24,30		——		——	136 40 24,30		40 25,62		— 1,32	20,042
6		——		——	5	29 43,17	93 29 43,17		29 45,10		— 1,93	20,042
7		——		——	5	47 25,89	79 47 25,89		47 19,22		+ 6,67	20,042
8	5	51 50,12		——		——	44 51 50,12		51 46,46		+ 3,66	20,042
9	2	10 55,69	4	10 55,94		——	96 10 55,86		10 55,20		+ 0,66	20,042
10		——		——		——	173 ——		9 29,62		——	20,042
11	4	23 23,42	1	23 24,39		——	106 23 23,61		23 27,96		— 4,35	20,041
12		——	3	44 4,62	3	44 4,39	118 44 4,51		44 8,62		— 4,11	20,041
13	22	45 3,67	8	45 2,98		——	75 45 3,49	45 2,93	45 1,81	+0,56	+ 1,68	20,039
14	5	43 40,51		——		——	70 43 40,51		43 35,11		+ 5,40	20,036
15	2	51 51,97	4	51 53,75		——	109 51 53,16		51 48,51		+ 4,65	20,036
16		——	5	7 45,44		——	82 6 45,44		6 41,81		+ 3,63	20,035
17	3	41 33,71	2	41 33,44		——	82 41 33,60		41 32,31		+ 1,29	20,031
18	4	15 5,59	9	15 5,67		——	52 15 5,63		15 5,23		+ 0,40	20,030
19	5	14 36,35		——		——	89 14 36,35		14 44,52		— 8,17	20,027
20	5	45 23,44	6	45 24,96		——	99 45 24,27	45 20,55	45 17,08	+3,72	+ 7,19	20,021
21	5	51 45,54	5	51 46,99		——	155 51 46,27		53 47,78		+121,51	20,019
22	5	40 57,20		——		——	74 40 57,20		40 52,59		+ 4,61	20,019
23	6	44 33,38	1	44 32,92		——	82 44 33,31	44 36,50	44 33,93	—3,19	— 0,62	20,016
24		——	5	55 42,09		——	119 54 42,09		54 38,51		+ 3,58	20,011
25	3	8 36,53	2	8 38,37		——	103 8 37,27		8 38,53		— 1,26	20,004
26	5	8 52,53	1	8 51,07		——	93 8 52,29		8 56,48		— 4,19	19,995
27		——		——		——	168 ——		12 1,02		——	19,999
28		——	5	59 26,90		——	88 59 26,90		59 25,11		+ 1,79	19,990
29		——	5	14 16,88		——	83 14 16,88		14 15,08		+ 1,80	19,988
30	5	36 46,74	5	36 48,41		——	134 36 47,57		36 40,38		+ 7,19	19,982
31	8	13 5,03	5	13 5,57		——	133 13 5,30		12 56,19		+ 9,11	19,982
32	5	58 50,28		——		——	90 58 50,29		58 47,37		+ 2,92	19,981
33	8	2 12,96	3	2 14,83		——	73 2 13,47		2 14,08		— 0,61	19,972
34		——	5	29 5,07		——	74 29 5,07		29 1,94		+ 3,13	19,971
35		——	5	10 30,50		——	61 10 30,50		10 32,62		— 2,12	19,957
36		——	2	47 33,21	3	47 32,22	105 47 32,62		47 32,67		— 0,05	19,957
37		——		---	4	53 15,65	94 53 15,65		53 10,85		+ 4,80	19,956
38		——	2	43 7,23	3	43 6,52	114 43 6,80		43 4,93		+ 1,87	19,951
39	5	24 21,52	5	24 22,17		——	36 24 21,85		24 11,86		+ 9,99	19,947
40	5	44 1,60	5	44 2,45		——	139 44 2,02		43 6,42		+ 55,60	19,940
41	5	59 44,70	1	59 45,63	6	59 43,40	27 59 44,12	59 48,44	59 49,77	—4,32	— 5,65	19,938
42	4	58 20,66		——		——	83 58 20,66		58 19,91		+ 0,75	19,936
43		——	2	37 55,06	3	37 55,32	70 37 55,22		37 50,85		+ 4,37	19,936
44		——		——		——	153 ——		53 18,49		——	19,935
45		——		——		——	153 ——		53 40,49		——	19,935

No.	Mag.	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenw. Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
46	5	Tucanæ β^3		—		—	5	2,80	0 25 2,65		2,44		+0,21	+2,771
47	7	Piscium		—	5	28,99		—	0 25 28,99		28,47		+0,52	3,002
48	7	Ceti		—	6	55,43		—	0 25 55,43		55,12		+0,31	3,054
49	6.7	Piscium		—	5	13,29		—	0 26 13,30		13,04		+0,26	3,102
50	6	13 Ceti		—	6	36,35		—	0 26 36,35		36,42		+0,03	3,086
51	6.7	Piscium (123)		—	3	55,65	1	55,36	0 26 55,58		55,63		—0,05	3,064
52	4	17 Cassiopeae ζ	7	39 27		—		—	0 27 39,27	39,18	38,86	+0,09	+0,41	3,280
53	4.5	29 Androm π	6	55,69		—		—	0 27 55,69	55,71	55,77	0,02	—0,08	3,172
54	6	53 Piscium	5	2,86		—		—	0 28 2,86		2,16		+0,70	3,160
55	6	Ceti		—	4	42,63		—	0 28 42,62		39,05		+3,57	2,988
56	7	Piscium		—	5	51,86		—	0 28 51,86		51,19		+0,67	3,071
57	7	15 Ceti		—	6	29,44		—	0 29 29,44		28,76		+0,68	3,064
58	4	30 Androm ε	6	41,73		—		—	0 29 41,73	41,81	41,24	0,08	+0,49	3,161
59	3	31 Androm δ	6	21,74		—		—	0 30 21,74	21,81	21,32	0,07	+0,42	3,169
60	3	18 Cassiopeae α	12	1,42	20	1,24	28	1,09	0 31 1,21	1,26	0,76	0,04	+0,45	3,339
61	6	55 Piscium		—	5	5,79		—	0 31 5,79		5,40		+0,39	3,133
62	6.7	Ceti	5	9,38		—		—	0 32 9,38		8,89		+0,49	3,031
63	5	Phœnicis μ	6	22,30		—		—	0 33 22,30		22,28		+0,02	2,861
64	6	Ceti	1	45,76	4	45,55		—	0 33 45,59		45,49		+0,10	3,024
65	5	20 Cassiopeae π	6	12,38		—		—	0 34 12,38		11,98		+0,40	3,271
66	6	Ceti		—	5	18,70		—	0 34 18,70		18,46		+0,24	2,991
67	2.3	16 Ceti β	7	9,18	8	9,42	8	9,26	0 35 9,29	9,27	9,23	+0,02	+0,06	2,984
68	5	17 Ceti Φ^1	5	42,82		—		—	0 35 42,82		42,68		+0,14	3,026
69	5	Phœnicis η	4	46,86		—		—	0 35 46,86		45,80		+1,06	2,731
70	6	Ceti		—	5	25,50		—	0 36 25,50		25,32		+0,18	2,979
71	6	Ceti		—	5	51,34		—	0 36 51,34		50,92		+0,42	3,047
72	6	18 Ceti		—	7	2,50		—	0 37 2,50		1,95		+0,55	3,015
73	6.7	57 Piscium		—	5	45,99		—	0 37 45,99		46,06		—0,07	3,125
74	6	58 Piscium		—	5	16,17		—	0 38 16,17		15,29		+0,88	3,111
75	6	59 Piscium		—	5	21,78		—	0 38 21,78		21,28		+0,50	3,143
76	4	34 Androm ζ	6	26,94		—		—	0 38 26,94	27,01	27,01	—0,07	0,07	3,164
77	6	60 Piscium		—	4	42,79		—	0 38 42,79		41,87		+0,92	3,091
78	4	24 Cassiopeae η	4	59,32	2	59,19		—	0 38 59,31	59,16	58,27	+0,15	+1,04	3,583*
79	6	Piscium		—	5	34,84		—	0 39 34,84		32,81		+2,03	3,086
80	6	62 Piscium		—	2	35,11	5	35,00	0 39 35,04		34,36		+0,68	3,094
81	5	63 Piscium δ	6	58,51		—	3	58,65	0 39 58,56		58,30		+0,26	3,095
82	5.6	64 Piscium γ		—	5	9,73		—	0 40 9,74		9,49		+0,25	3,135
83	4	35 Androm ν	5	34,79	1	35,08	4	34,63	0 40 34,78	34,81	34,25	—0,06	+0,53	3,266
84	6	65 Piscium i	5	52,82		—		—	0 40 52,82		52,14		+0,68	3,187
85	6	19 Ceti Φ^2		—	7	42,94		—	0 41 42,94		42,81		+0,13	3,019
86	5	20 Ceti m	7	25,64	8	25,73	2	25,74	0 44 25,69	25,68	25,72	+0,01	—0,03	3,059
87	6	66 Piscium		—	6	42,44		—	0 45 42,45		41,80		+0,65	3,155
88	6	36 Androm	6	59,24	1	59,33		—	0 45 59,26		58,94		+0,32	3,179
89	3	27 Cassiopeae γ	5	37,85	12	37,65	8	37,61	0 46 37,67	37,83	36,79	—0,16	+0,88	3,581
90	6	67 Piscium k	2	57,31	2	57,35		—	0 46 57,33		56,97		+0,36	3,202

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
46	4	57 22,87	5	57 24,16		——	153 57 23,65		57 27,57		— 3,92	—19,924
47		——	2	37 18,60	3	37 18,69	80 37 18,64		37 11,70		+ 6,94	19,920
48		——	4	28 29,46	2	28 31,23	95 28 30,07		28 26,54		+ 3,53	19,916
49	3	33 9,42	5	33 10,35		——	77 33 10,00		33 11,52		— 1,52	19,913
50		——	1	31 10,22	5	3 8,57	94 31 8,84		31 5,37		+ 3,47	19,909
51		——	5	25 44,95		——	91 25 44,95		25 43,05		+ 1,90	19,905
52	5	1 45,03	6	1 44,51	4	1 44,11	37 1 44,57	1 43,57	1 42,95	+1,00	+ 1,62	19,898
53	6	12 24,53		——		——	57 12 24,53	12 23,44	12 21,80	+1,09	+ 2,73	19,895
54	5	41 37,56		——		——	75 41 37,56		41 35,06		+ 2,50	19,894
55		——	1	41 35,15	5	41 34,67	115 41 34,75		41 33,43		+ 1,32	19,887
56		——		——	5	47 14,80	87 47 14,80		47 10,98		+ 3,82	19,885
57		——	4	25 40,87		——	91 25 40,87		25 40,38		+ 0,49	19,878
58	4	36 5,22		——	3	36 1,09	61 36 3,41	36 4,10	36 5,11	—0,69	— 1,70	19,876
59	5	3 37,56	6	3 38,47		——	60 3 38,06	3 32,69	3 31,53	+5,37	+ 6,53	19,868
60	16	23 8,74	15	23 8,77		——	34 23 8,76	23 7,54	23 7,49	+1,22	+ 1,27	19,861
61	5	29 3,63		——		——	69 29 3,63		29 2,08		+ 1,55	19,860
62	4	16 31,72	1	16 32,32		——	95 16 31,84		16 27,58		+ 4,26	19,847
63	5	0 28,80		——		——	137 0 28,80		0 18,30		+ 10,50	19,832
64	4	43 30,63	1	43 32,11		——	102 43 30,92		43 33,41		— 2,49	19 827
65	5	53 44,03	4	53 42,52		——	43 53 43,36		53 46,03		— 2,67	19,821
66		——	4	6 55,34		——	111 6 55,34		6 55,43		— 0,09	19,820
67	5	54 33,23	5	54 31,09		——	108 54 33,66	51 34,93	54 35,21	—1,27	— 1,55	19,809
68	4	31 30,12	2	31 30,60		——	101 31 30,48		31 33,57		— 3,09	19,801
69	5	23 3,42		——		——	148 23 3,42		23 3,54		— 0,12	19,800
70	3	55 46,30	2	55 51,90		——	112 55 48,54		55 51,83		— 3,29	19,791
71		——	5	33 6,38		——	95 33 6,38		33 4,43		+ 1,95	19,786
72		——	4	47 27,17		——	103 47 27,17		47 32,26		— 5,09	19,783
73		——	4	26 32,52		——	75 26 32,52		26 27,39		+ 5,13	19,773
74		——		——	5	56 35,05	78 56 35,05		56 33,65		+ 1,40	19,766
75	1	20 26,00		——	4	20 26,33	71 20 26,26		20 22,95		+ 3,31	19,764
76	5	38 50,85		——	7	38 52,13	66 38 51,59	38 52,76	38 52,83	—1,17	— 1,24	19,763
77	4	10 38,32		——		——	84 10 38,32		10 33,68		+ 4,64	19,759
78	5	4 39,71		——		——	33 4 39,71	4 42,23	4 40,69	—2,52	— 0,98	19,035*
79		——	5	35 8,20		——	85 35 8,20		31 27,41		——	19,747
80		——		——	5	37 4,41	83 37 4,41		37 7,54		— 3,13	19,746
81	5	19 47,91	5	19 46,83		——	83 19 47,37		19 46,61		+ 0,76	19,740
82		——	5	58 1,31		——	73 58 1,34		58 1,48		— 0,14	19,737
83	5	50 19,58	5	50 18,25		——	49 50 18,91	50 15,05	50 17,29	+3,86	+ 1,62	19,731
84	5	12 19,88		——		——	63 12 19,88		12 22,67		— 2,79	19,726
85		——	5	33 1,33		——	101 33 1,33		33 1,64		— 0,31	19,713
86	5	3 28,93	5	3 26,03		——	92 3 27,48	3 29,13	3 28,87	—1,65	— 1,39	19,669
87	5	43 25,11		——		——	71 43 25,11		43 27,36		— 2,25	19,647
88	5	16 56,54		——		——	67 16 56,54		16 57,56		— 1,02	19,642
89	9	11 45,60	5	11 44,85	9	11 46,42	30 11 45,76	11 42,48	11 37,18	+3,28	+ 8,28	19,632
90		——	4	42 6,73		——	63 42 6,73		42 7,39		— 0,66	19,625

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenb Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s	s.
91	5	Cephei		4 10,56		——		——	0 47 10,56		4,94		+5,62	+6,396
92	6	Ceti		——	5	13,26		——	0 47 13,26		12,81		+0,45	3,028
93	7	Piscium		——	5	20,89		——	0 47 20,90		20,51		+0,39	3,131
94	4	37 Androm μ	5	27,42		——	3	26,93	0 47 27,26	27,48	27,17	—0,22	+0,09	3,359*
95	6	22 Ceti Φ^3		——	6	36,21	1	36,06	0 47 36,18		35,71		+0,47	3,009
96	5	38 Androm η	6	15,26	1	15,14		——	0 48 15,19		14,35		+0,84	3,183
97	6	68 Piscium h		——	4	45,88		——	0 48 45,90		45,11		+0,79	3,218
98	6.7	Piscium		——	5	6,25		——	0 49 6,26		5,88		+0,38	3,132
99	6	23 Ceti Φ^4	1	19,22	5	19,23		——	0 50 19,22		18,95		+0,27	3,005
100	5	App Scalp α	6	30,31		——		——	0 50 30,31		30,36		—0,05	2,898
101	6.7	Piscium		——	5	4,62		——	0 51 4,62		7,03		—2,41	3,097
102	7	Piscium	3	45,77		——		——	0 53 45,77		45,21		+0,56	3,111
103	4	71 Piscium ε	6	13,96	8	13,86	4	13,85	0 54 13,90	13,96	14,00	—0,06	—0,10	3,106
104	6	25 Ceti		——	5	32,96		——	0 54 32,96		32,50		+0,46	3,036
105	6.7	26 Ceti		——	6	10,71		——	0 55 10,71		10,11		+0,60	3,071
106	6.7	73 Piscium		——	5	10,82		——	0 56 10,83		10,64		+0,19	3,095
107	6	72 Piscium z		——	3	13,99	3	14,12	0 56 14,08		13,30		+0,78	3,149
108	5.6	74 Piscium ψ^1	2	41,41	1	41,86		——	0 56 41,57		41,31		+0,26	3,191
109	6	27 Ceti	4	12,06		——		——	0 57 12,06		11,77		+0,29	3,005
110	6	28 Ceti	8	20,57		——		——	0 57 39,57		39,40		+0,08	3,005
111	6.7	75 Piscium H		——	5	43,99		——	0 57 43,97		43,74		+0,23	3,139
112	3.4	Phœnicis β	6	34,66		——		——	0 58 34,66		34,50		+0,16	2,698
113	6	79 Piscium ψ^2		——		——	3	57,39	0 58 57,42		56,88		+0,54	3,190
114	6	30 Ceti		——		——	3	19,31	0 59 19,30		19,12		+0,18	3,004
115	2.3	1 Ursae Min. α		——		——		——	1 0 2,19	3,14	1,81	—0,95	—0,38	15,430*
116	5	80 Piscium e	2	43,54		——	2	43,30	0 59 43,42	43,45	43,51	—0,03	—0,09	3,097
117	5	42 Androm Φ		——		——	2	47,08	0 59 47,18		46,93		+0,22	3,428
118	3.4	31 Ceti η		——		——	3	8,37	1 0 8,37	8,46	8,63	—0,09	—0,26	3,000
119	2	43 Androm β		——		——	3	21,16	1 0 21,23	20,96	20,28	+0,27	+0,95	3,309
120	6	81 Piscium ψ^3		——		——	3	51,26	1 0 51,28		50,75		+0,54	3,187
121	4.5	33 Cassiopeae θ		——		——	3	55,11	1 1 55,24	55,19	55,20	+0,05	+0,04	3,555
122	6	Piscium		——		——	2	17,75	1 1 17,77		16,98		+0,79	3,161
123	5	Phœnicis ζ		——		——	2	18,29	1 1 18,18		18,08		+0,10	2,542
124	6	32 Ceti		——		——	2	46,21	1 1 46,20		46,20		0,00	3,007
125	6	33 Ceti		——	1	55,44	2	55,23	1 1 55,30		54,78		+0,51	3,078
126	6	83 Piscium τ		——		——	3	25,98	1 2 26,08		24,93		+1,10	3,268
127	5	84 Piscium $\varkappa$		——		——	3	26,31	1 2 26,34		26,54		—0,20	3,200
128	7	Piscium		——		——	3	41,17	1 2 41,19		41,36		—0,17	3,128
129	6.7	34 Ceti		——		——	5	11,09	1 3 11,09		10,68		+0,41	3,048
130	6.7	35 Ceti	2	54,16	3	54,19		——	1 3 54,18		53,87		+0,31	3,078
131	6	85 Piscium Φ		——	5	38,52		——	1 4 38,54		38,41		—0,13	3,231
132	6	86 Piscium ζ^1		——	5	57,82		——	1 4 57,82	57,79	57,76	+0,03	+0,06	3,112
133	6.7	87 Piscium		——	4	12,98		——	1 5 12,99		12,13		+0,86	3,170
134	6	37 Ceti b		——		——	3	56,53	1 5 56,53		55,92		+0,61	3,009
135	6.7	88 Piscium	6	58,57		——		——	1 5 58,57		57,98		+0,59	3,106

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
91		5 38 58,35		——		——	4 38 58,35		39 0,28		— 1,93	—19,625
92		——		4 15 22,84		——	98 15 22,84		15 23,80		— 0,96	19,621
93		——		4 57 34,60	1	57 33,97	76 57 34,47		57 33,65		+ 0,82	19,618
94		5 24 47,97		5 24 46,98	5	24 49,89	52 24 48,28	24 46,29	24 49,12	+1,99	— 0,84	19,617
95		——		5 11 40,81		——	102 11 40,81		10 39,72		+ 1,09	19,614
96		5 29 23,91		5 30 22,06		——	67 29 22,98		29 25,67		— 2,69	19,602
97		4 55 2,58		——		——	61 55 2,58		55 3,90		— 1,32	19,593
98		——		5 12 49,41		——	77 12 49,41		12 49,17		+ 0,24	19,586
99		——		5 17 17,50		——	102 17 17,50		17 17,87		— 0,37	19,563
100		5 16 2,70		5 16 2,12		——	120 16 2,41		16 0,13		+ 2,28	19,560
101		2 25 30,55		3 25 30,94		——	84 25 30,44		25 27,97		+ 2,47	19,548
102		5 5 1,44		——		——	82 5 1,44		4 58,62		+ 2,82	19,496
103		7 0 55,88		6 0 55,27	5	0 54,95	83 0 55,42	0 57,81	0 57,83	—2,39	— 2,41	19,486
104		2 44 13,03		3 44 12,26		——	95 44 12,57		44 8,66		+ 3,91	19,480
105		——		5 32 10,96		——	89 32 10,96		32 7,92		+ 3,04	19,467
106		——		5 14 48,99	2	14 47,68	85 14 48,62		14 42,79		+ 5,83	19,446
107		——		5 57 32,92		——	75 57 32,92		57 31,39		+ 1,53	19,445
108		5 25 41,23		——		——	69 25 41,23		25 41,23		0,00	19,435
109		——		5 51 47,54		——	100 51 47,54		52 43,68		+ 3,86	19,424
110		——		5 44 29,64		——	109 44 29,64		44 24,81		+ 4,83	19,414
111		——		1 56 46,03	4	56 43,60	77 56 44,08		56 46,01		— 1,93	19,412
112		5 37 11,75		5 37 9,75		——	137 37 10,75		37 2,81		+ 7,94	19,394
113		——		4 9 24,62		——	79 9 24,62		9 19,22		+ 5,40	19,386
114		——		3 41 9,89		——	100 41 9,89		41 11,51		— 1,62	19,377
115		10 35 12,17		11 35 12,57	3	35 12,91	1 35 12,44	35 12,60	35 12,20	—0,16	+ 0,24	19,375
116		5 14 30,74		——	3	14 31,69	85 14 31,10	14 28,36	14 28,02	+2,74	+ 3,08	19,368
117		5 39 19,22		——		——	43 39 19,22		39 22,03		— 2,81	19,367
118		5 4 27,40		——		——	101 4 27,10	4 29,30	4 25,08	—1,90	+ 2,32	19,359
119		5 16 22,04	2	16 22,30		——	55 16 22,76	16 19,41	16 17,61	+3,35	+ 5,15	19,355
120		——		——	6	14 23,10	71 14 23,10		14 22,55		+ 0,55	19,343
121		4 44 47,01	1	44 47,33		——	35 44 47,07	44 46,75	44 48,41	+0,32	— 1,34	19,341
122		——	5	13 23,85		——	75 13 23,85		13 18,06		+ 5,79	19,333
123		——		——	4	8 43,27	146 8 43,27		8 31,30		+ 11,97	19,332
124		——	5	43 6,81		——	99 43 6,81		47 56,65		——	19,321
125		——	5	26 59,38		——	88 26 59,38		27 0,61		— 1,23	19,318
126		——	5	48 17,42		——	60 48 17,42		48 13,60		+ 3,82	19,306
127		6 51 41,98		——		——	69 51 41,98		51 38,18		+ 3,80	19,306
128		——	4	36 13,80		——	80 36 13,89		36 10,81		+ 3,08	19,300
129		3 8 38,31		——	2	8 40,17	93 8 39,06		8 42,26		— 3,20	19,288
130		——	4	25 1,65		——	88 25 1,65		24 58,94		+ 2,71	19,271
131		——		——	5	18 26,71	66 18 26,71		18 28,67		— 1,96	19,253
132		1 18 53,12		——	5	18 53,73	83 18 53,63	18 54,82	18 53,38	—1,19	+ 0,25	19,245
133		——		——	5	45 30,31	74 45 30,31		45 28,26		+ 2,05	19,240
134		5 49 35,96		——		——	98 49 35,96		49 36,27		— 0,31	19,221
135		——	5	52 42,15		——	83 53 42,15		53 39,62		+ 2,53	19,221

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
136	6	38 Ceti	7	14,92		——		——	1 6 14,92		14,70		+0,22	+3.056
137	6	39 Ceti	1	4,78		——	4	4,87	1 8 4,85		4,70		+0,15	3,045
138	6	40 Ceti		——	3	23,24	2	23,64	1 8 23,40		23,29		+0,11	3,046
139	6	89 Piscium *f*		——	5	8,51		——	1 9 8,51		8,16		+0,35	3,087
140	5.6	90 Piscium *υ*	5	14,89		——		——	1 10 14,89		14,82		+0,07	3,268
141	6	42 Ceti *l*1	1	13,44	5	13,35		——	1 11 13,37		13,18		+0,19	3,058
142	6	91 Piscium *l*		——	5	51,05		——	1 11 51,07		51.17		—0,10	3,285
143	5	46 Androm *ξ*	6	29,10	1	29,04		——	1 12 29,09		28,54		+0,55	3,478
144	7	Ceti		——	5	58,44		——	1 13 58,44		58,32		+0,12	3,074
145	6.7	43 Ceti *l*2		——	5	59,78		——	1 13 59,78		59,41		+0,37	3,058
146	4.5	36 Cassiopeae *ψ*	6	10,30	2	10,44	1	10,29	1 14 10 39	10,45	9.43	—0,06	+0,96	4,079
147	3	37 Cassiopeae *δ*	2	53,83	2	53,50	5	53,54	1 14 53,69		55,11		—1,42	4,833*
148	6	44 Ceti		——	5	35,76		——	1 15 35,76		35,46		+0,30	3,000
149	3	45 Ceti *θ*1		——	6	37,84		——	1 15 37.84		37,55		+0,29	2,999
150	5.6	93 Piscium *p*1		——	6	12,74		——	1 17 12,76		12,40		+0,36	3,214
151	5	Phœnicis	6	14,34		——		——	1 17 14,34		14,29		+0,05	2,665
152	5	46 Ceti *c*	6	21,62		——		——	1 17 21,62		21,40		+0,22	2,946
153	6.7	94 Piscium *p*2		——		——	5	38,16	1 17 38,18		37,87		+0,31	3,215
154	6.7	Ceti		——	5	51,88		——	1 17 51.88		51,51		+0,37	3,058
155	6	47 Ceti		——	5	34,39		——	1 17 34,38		34,97		—0,59	2,957
156	7	95 Piscium		——	5	57,04		——	1 18 57,01		56,87		+0,17	3,103
157	7	Piscium		——		——	5	22,97	1 18 22,99		22,32		+0,67	3,200
158	7	Piscium		——		——	5	35,08	1 19 35,09		34,86		+0,23	3,124
159	6.7	96 Piscium		——		——	5	17,49	1 20 17,50		16.91		+0,59	3,120
160	6.7	97 Piscium		——	6	49,64		——	1 20 49,66		49,01		+0 65	3,213
161	3	Phœnicis *χ*	6	3,86		——		——	1 21 3,86		3,20		+0,66	2,619
162	5	98 Piscium *μ*	5	23,52	1	23,32	7	23,43	1 21 23,46	23,32	23,09	+0,14	+0,37	3,111
163	6	48 Ceti		——	5	32,63		——	1 21 32,62		32,55		+0,07	2,875
164	6	Ceti		——	5	46,73		——	1 21 46,71		——		——	2,836
165	6	Ap. Sculp		——	5	27,84		——	1 22 27,82		27,02		+0,80	2,828
166	4	99 Piscium *ν*	6	30,46	6	30,40		——	1 22 30,44	30,35	30,27	+0,09	+0,17	3,189
167	4	Phœnicis *δ*	5	15,00		——		——	1 24 15,00		14,69		+0,31	2,497
168	7	Piscium		——	6	30,35		——	1 24 30,35		30,11		+0,24	3,130
169	6	Piscium		——	5	44,65		——	1 25 44,67		43,86		+0,81	3,223
170	7	100 Piscium		——	5	56,91		——	1 25 56,92		56,41		+0,51	3,169
171	5.6	49 Ceti		——	5	25,66		——	1 26 25,64		24,72		+0,92	2,922
172	6	101 Piscium		——	5	48,19		——	1 26 48,21		47,45		+0,76	3,189
173	6	Piscium		——	3	50,36	3	50,51	1 26 50,45		49,82		+0,63	3,215
174	5	50 Androm *υ*	6	58,17	1	57,55		——	1 26 58,08		57,50		+0 58	3,491
175	6.7	Piscium		——	5	15,99		——	1 27 16,00		15,76		+0,24	3,127
176	3.4	51 Androm R2	6	43.35		——		——	1 27 43 35	43,28	42 93	+0,07	+0,42	3,617
177	6	50 Ceti		——		——	6	47,50	1 27 47.49		46,82		+0,67	2,922
178	6	102 Piscium *π*	4	12,19		——	6	12,17	1 28 12.19	12,18	11,90	+0,01	+0,29	3,168
179	6	Ceti		——	5	14,20		——	1 29 14,19		13,08		+1 11	2,976
180	6.7	104 Piscium		——		——	5	16,05	1 30 16,06		16,30		—0,24	3,190

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
136		——	2	52 29,33	3	52 30,25	91 52 29,88		52 27,00		+ 2,88	+19,214
137	4	23 8,47	1	23 9,09		——	93 23 8,59		23 8,41		+ 0,18	19,167
138		——	5	9 38,60		——	93 9 38,60		9 38,64		— 0,04	19,159
139	4	16 19,55	1	16 17,85		——	87 16 19,21		16 14,40		+ 4,81	19,140
140		——	5	37 14,43		——	63 37 14,43		37 12,26		+ 2,17	19,111
141		——	5	23 35,87		——	91 23 35,87		23 31,64		+ 4,23	19,085
142	3	8 30,33	1	8 30,27		——	62 8 30,32		8 31,16		— 0,84	19,069
143	7	21 18,45	3	21,18 43		——	45 21 18,45		21 11,24		+ 7,21	19,052
144	5	9 8,75		——		——	89 9 8,75		9 9,39		— 0,64	19,011
145		——	5	19 48,96		——	91 19 48,96		19 47,47		+ 1,49	19,010
146	6	44 58,73	3	44 59,26		——	22 44 58,91	45 1,67	45 2,29	—2,76	— 3,38	19,006
147	6	38 29,52	5	38 28,74		——	30 38 29,16		38 25,79		+ 3,37	18,986
148	1	52 55,81	4	52 56,69		——	98 52 56,51		52 53,92		+ 2,59	18,965
149	5	3 6,39		——	2	3 8,80	99 3 7,08		3 7,25		— 0,17	18,964
150		——	7	42 15,69		——	71 42 15,69		42 12,35		+ 3,34	18,919
151	5	22 5,77		——	1	22 8,83	132 22 6,28		22 9,01		— 2,73	18,918
152	5	28 32,62	3	28 32,00		——	105 28 32,39		28 26,62		+ 5,77	18,915
153		——	5	37 56,66		——	71 37 56,66		37 55,11		+ 1,55	18,907
154	3	16 25,24		——	2	16 25,07	91 16 25,17		——		——	18,900
155		——		——	5	55 54,73	103 55 54,73		55 56,71		— 1,98	18,879
156		——		——	5	30 58,50	85 30 58,50		30 53,20		+ 5,30	18,868
157		——	5	47 30,58		——	73 47 30,58		47 31,57		— 0,99	18,856
158		——		——	5	54 40,69	82 54 40,69		54 42,07		— 1,38	18,850
159		——	5	34 29,53		——	83 34 29,53		34 29,06		+ 0,47	18,829
160	5	30 51,82		——		——	72 30 51,82		30 54,23		— 2,41	18,813
161	5	10 49,87	1	10 50,89		——	134 10 50,04		10 45,91		+ 4,13	18,805
162	4	43 32,04		——	6	43 32,09	84 43 32,07	43 23,74	43 33,89	+8,33	— 1,82	18,795
163		——	4	29 59,68	1	30 0,46	112 29 59,83		30 0,62		— 0,79	18,790
164	1	29 20,02	3	29 19,88		——	116 29 19,91		29 18,88		+ 1,03	18,785
165		——	1	4 40,11	4	4 39,84	117 4 39,89		4 40,02		— 0,13	18,762
166	6	31 23,26	5	31 25,36	4	31 24,06	75 31 24,17	31 22,61	31 20,08	+1,56	+ 4,09	18,761
167	5	56 56,23	3	56 56,78		——	139 56 56,44		56 40,27		+ 16,17	18,706
168	5	39 17,65		——		——	82 39 17,65		39 18,96		— 1,31	18,699
169	5	23 57,69		——		——	72 23 57,69		23 53,57		+ 4,12	18,660
170		——	5	18 13,19		——	78 18 13,19		18 12,05		+ 1,14	18,653
171		——	5	32 22,60		——	106 32 22,60		32 22,58		+ 0,02	18,638
172		——	5	12 0,14		——	76 12 0,14		11 57,60		+ 2,54	18,626
173		——	2	25 41,35	3	25 42 29	73 25 41,91		25 44,59		— 2,68	18,625
174	5	26 18,21		——		——	49 26 18,21		26 15,89		+ 2,32	18,621
175		——		——	5	13 0,17	83 13 0,17		13 1,36		— 1,19	18,611
176	5	13 35,35		——	3	13 36,15	42 13 35,65	13 34,61	13 34,35	+1,04	+ 1,30	18,596
177		——	5	15 43,04		——	106 15 43,04		15 38,10		+ 4,94	18,594
178	5	43 9,33		——		——	78 43 9,33	43 14,98	43 11,35	—5,65	— 2,02	18 580
179		——	5	16 3,82		——	100 16 3,82		16 3,24		+ 0,58	18,546
180		——	4	34 8,71	1	34 7,39	76 34 8,45		34 9,14		— 0,69	18,511

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s		s.		s.	h. m. s.	s.	s.	s.	s.	s.
181	6	105 Piscium		——	4	37,79	5	37,78	1 30 37,81	37,71	37,67	+0,10	+0,14	+3,211
182	1	Eridani α	5	27,19	3	27,31	3	27,39	1 31 27,23		26,51		+0,72	2,235
183	7	Piscium		——	5	44,73		——	1 31 44,74		43,94		+0,80	3,140
184	5	106 Piscium ν	6	41,57	6	41,90	6	41,90	1 32 41,79	41,86	41,60	—0,07	+0,19	3,111
185	5	54 Androm	5	10,53		——		——	1 33 10,53		10,36		+0,17	3,693
186	5.6	107 Piscium	4	23,42	5	23,56		——	1 33 23,51		23,20		+0,31	3,255
187	6.7	109 Piscium		——	6	46,12		——	1 35 46,14		45,72		+0,42	3,257
188	3.4	52 Ceti τ	5	15,98	7	16,06		——	1 36 16,01	16,01	15,64	0,00	+0,37	2,779*
189	5	110 Piscium ο	6	31,85	4	31,81	3	31,93	1 36 31,86	31,82	31,70	+0,04	+0,16	3,148
190	6	Ceti		——	5	33,71		——	1 37 33,71		33,27		+0,44	3,004
191	5	App Sculp ε	6	46,78	1	46,78		——	1 37 46,78		46,01		+0,77	2,800
192	6.7	4 Arietis		——	5	4,99		——	1 39 5,01		4,81		+0,20	3,230
193	6	Arietis		——	5	52,60		——	1 40 52,62		52,13		+0,49	3,291
194	5	53 Ceti χ^2	5	20,30	1	20,35		——	1 41 20,31		19,40		+0,91	2,952
195	6	54 Ceti	1	57,53	5	57,89		——	1 41 57,85		56,76		+1,09	3,171
196	3.4	45 Cassiopeae ε	6	24,11		——		——	1 42 24,11	23,49	23,47	+0,62	+0,64	4,191
197	3	55 Ceti ζ	6	10,25	1	10,46		——	1 43 10,28	10,35	9,82	—0,07	+0,46	2,953
198	3.4	2 Trianguli α	6	31,59	1	31,48	5	31,50	1 43 31,56	31,52	31,23	+0,04	+0,33	3,388
199	4.5	5 Arietis γ^1	5	19,56	3	19,56	4	19,65	1 44 19,60	19,58	19,51	+0,02	+0,09	3,264
200	5.6	111 Piscium ξ		——	5	52 00		——	1 44 52,00		51,79		+0,21	3,092
201	3	6 Arietis β		——	12	22,54	16	22,52	1 45 22,55	22,55	21,77	0,00	+0,78	3,283
202	6	7 Arietis		——	5	29,93		——	1 46 29,95		29,45		+0,50	3,319
203	7	Piscium		——	5	13,24		——	1 47 13,24		12,92		+0,32	3,079
204	5	Phœnicis Φ	6	23,78		——		——	1 47 23,78		23,77		+0,01	2,499
205	6	8 Arietis ι		——	6	11,23	4	11,25	1 48 11,26	11,24	11,16	+0,02	+0,10	3,253
206	5	48 Cassiopeae	4	18,15		——		——	1 48 18,15		18,17		—0,02	4,744
207	5.6	9 Arietis λ		——	5	35.05	1	35,01	1 48 35,06	34,98	35,17	+0,08	—0,11	3,324
208	6	56 Ceti v^1		——		——	5	48,23	1 48 48,21		47,30		+0,91	2,804
209	4.5	50 Cassiopeae	4	15,21	2	14,79		——	1 49 15,13	15,46	14,23	—0,33	+0,90	4,908
210	4	Eridani χ	6	25,12		——		——	1 49 25,12		23,86		+1,26	2,270
211	6	Arietis		——		——	5	17,14	1 50 17,16		16,48		+0,68	3,296
212	7	Piscium		——		——	5	26,91	1 50 26,93		26,50		+0,43	3,194
213	4.5	Hydri η^2	2	41,32	2	41,17		——	1 50 41,19		40,73		+0,46	1,495
214	7	Ceti		——	4	10,93		——	1 51 10,93		10,45		+0,48	3,125
215	6	112 Piscium		——	3	25,44	2	25,71	1 51 25,55		25,20		+0,35	3,093
216	6	57 Ceti t		——	4	52,26		——	1 51 52,24		51,92		+0,32	2,819
217	4.5	59 Ceti v^2	6	5.50		——		——	1 52 5,50	5,36	4,99	+0,14	+0,51	2,816
218	5	113 Piscium α	6	21 68	1	21 80	2	21,70	1 53 21,70	21 65	21,73	+0,05	—0,03	3,090
219	3	Hydri α	3	28 77	2	28,65		——	1 53 28,69		28,87		—0,18	1,854
220	3.4	57 Androm γ		——	7	37,11	2	37,06	1 53 37,12	37,10	36,71	+0,02	+0,41	3,630
221	7	Arietis		——		——	6	0.78	1 54 0,80		0,31		+0,49	3,183
222	6	Arietis A		——	2	30,66	3	30,93	1 54 30,84		30,33		+0,51	3.269
223	6	60 Ceti		——	1	35,29	4	35,14	1 54 35,17		35,29		—0,12	3,060
224	5	Phœnicis χ	6	57,98		——		——	1 54 57,98		58,34		—0,36	2,414
225	6	12 Arietis κ	1	10,96	4	10,95		——	1 57 10,96		10,43		+0,53	3,330

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
181		——	5	26 58,70		——	74 26 58,70	26 58,50	26 55,71	+0,20	+ 2,99	+18,499
182	7	5 30,61	6	5 30,27	3	5 30,75	148 5 30,49		5 35,18		— 4,69	18,471
183	3	5 37,89		——		——	82 5 37,89		5 38,18		— 0,29	18,462
184	5	21 59,47	4	21 58,03	5	21 58,14	85 21 58,58	21 55,67	21 55,29	+2,91	+ 3,29	18,429
185	5	9 44,47		——		——	40 9 44,47		9 40,43		+ 4,04	18,413
186	4	33 4,46	1	33 6,31		——	70 33 4,83		32 58,88		+ 5,95	17,835*
187	3	45 31,92	2	45 33,16		——	70 45 32,42		45 29,66		+ 2,76	18,322
188	5	49 27,29	5	49 27,23		——	106 49 27,26	49 29,75	49 24,77	—2,49	+ 2,49	19,144*
189	5	41 26,30	5	41 25,94	7	41 25,71	81 41 25,95	41 26,67	41 25,66	—0,72	+ 0,29	18,295
190		——	6	34 34,31		——	96 34 34,31		34 34,60		— 0,29	18,258
191	5	53 40,46	1	53 41,78		——	115 53 40,68		53 41,21		— 0,53	18,250
192	4	52 59,63		——	1	53 1,73	73 53 0,07		53 0,30		— 0,23	18,203
193	1	33 38,70	4	33 40,02		——	68 33 39,76		33 43,08		— 3,32	18,137
194	5	31 13,53	5	31 11,94		——	101 31 12,73		31 13,87		— 1,14	18,119
195	5	47 33,14		——		——	79 47 33,14		47 30,92		+ 2,22	18,096
196	6	9 42,79		——	5	9 43,59	27 9 43,15	9 43,93	9 44,25	—0,78	— 1,10	18,081
197	5	10 4,07		——	5	10 5,31	101 10 4,69	10 6,40	10 9,49	—1,71	— 4,80	18,050
198	5	14 35,14	6	14 34,89	2	14 33,72	61 14 34,81	14 33,90	14 36,82	+0,91	— 2,01	18,037
199	2	31 58,67	3	31 58,71	1	31 59,56	71 31 58,73	32 0,83	31 55,20	—2,10	+ 3,53	18,006
200	3	38 38,32	2	38 39,52		——	87 38 38,80		38 44,50		— 5,70	17,985
201	5	1 2,84	6	1 3,29	11	1 3,48	70 1 3,28	0 59,91	0 56,81	+3,37	+ 6,47	17,966
202	2	14 57,21	4	14 57,90		——	67 14 57,67		14 57,09		+ 0,58	17,922
203		——	5	59 10,45		——	88 59 10,45		59 14,57		— 4,12	17,893
204	5	19 21,76	2	19 21,48	2	19 23,86	133 19 22,16		19 25,90		— 3,74	17,885
205		——	1	0 19,80	7	0 18,94	73 0 18,99	0 21,66	0 21,64	—2,67	— 2,65	17,855
206	4	54 51,19		——		——	19 54 51,19		54 47,87		+ 3,32	17,852
207	3	13 37,10	1	13 33,82	5	13 36,02	67 13 36,14	13 37,67	13 33,27	—1,53	+ 2,87	17,839
208		——	2	20 57,52	3	20 58,33	113 20 58,01		21 1,82		— 3,81	17,830
209	5	23 48,34	1	23 47,19		——	18 23 48,14	23 49,41	23 50,50	—1,27	— 2,36	17,815
210	5	26 47,82	2	26 47,93		——	142 26 47,85		26 58,47		— 10,62	17,805
211	1	45 41,26	3	45 41,08		——	69 45 41,12		45 37,56		+ 3,56	17,771
212		——		——	5	31 22,49	78 31 22,49		31 21,03		+ 1,46	17,764
213	5	28 24,88		——		——	158 28 24,88		28 34,93		— 10,05	17,753
214		——		——	6	47 1,54	84 47 1,54		46 57,00		+ 4 54	17,735
215		——	5	42 34,23		——	87 42 31,23		42 35,77		— 1,54	17,725
216	2	38 34,54	3	38 36,68		——	111 38 35,82		38 37,51		— 1,69	17,706
217	4	53 41,09	3	53 40,63		——	111 53 40,89	53 51,98	53 38,09	-11,09	+ 2,80	17,697
218	5	3 0,91	3	3 1,63	2	3 0,60	88 3 1,06	3 4,32	3 0,44	—3,26	+ 0,62	17,645
219	4	23 18,88		——		——	152 23 18,88		23 9,83		+ 9,05	17,638
220	5	28 47 23		——		——	48 28 47,23	28 49,93	28 50,74	—2,70	— 3,51	17,635
221		——	5	47 45,54		——	79 47 45,54		47 39,19		+ 6,35	17,618
222		——	2	33 24,21	4	33 24,96	72 33 24,71		33 26,63		— 1,92	17,597
223		——		——	5	41 8,27	90 41 8,27		41 2,12		+ 6,15	17,593
224	3	31 29,77	1	31 30,53		——	135 31 29,96		31 39,96		— 10,00	17,576
225		——	5	9 18,30		——	68 9 18,30		9 18,44		— 0,14	17,484

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
226	6	Arietis		——	5	12,27		——	1 57 12,29		12,11		+0,18	+3,373
227	3	13 Arietis α	10	43,13	5	43,18	46	43,22	1 57 43,22	43,17	42,80	+0,05	+0,42	3,342
228	4	4 Trianguli β	6	34,35	5	34,40		——	1 59 34,39	34,34	34,49	+0,05	—0,10	3,520
229	5.6	14 Arietis	6	52,70		——		——	1 59 52,70		52,47		+0,23	3,381
230	6.7	62 Ceti	3	55,23	2	55,53		——	2 0 55,35		55,07		+0,28	3,108
231	6	15 Arietis		——	4	19,66	2	19,61	2 1 19,67		19,09		+0,57	3,296
232	6.7	64 Ceti		——	5	29,56		——	2 2 29,56		29,42		+0,14	3,161
233	5.6	6 Trianguli ι		——	5	38,74	1	38,98	2 2 38,81		38,53		+0,28	3,453
234	6	63 Ceti		——	6	4,50		——	2 3 4,50		3,71		+0,79	3,037
235	6	17 Arietis η	3	24,71	2	24,61		——	2 3 24,68		24,11		+0,57	3,323
236	7	19 Arietis	7	54,30		——	7	54,36	2 3 54,34	54,24	53,62	+0,10	+0,72	3,245
237	5	65 Ceti ξ1	7	6,40	6	6,43	7	6,48	2 4 6,44	6,47	5,84	—0,03	+0,60	3.165
238	6	67 Ceti F		——	5	36,62		——	2 8 36,62		36,18		+0,44	2,978
239	6	22 Arietis θ1	2	47,62	4	47,83	3	47,84	2 8 47,82	47,80	47,39	+0,02	+0,43	3,315
240	6	Ceti	6	18,10		——		——	2 9 18,10		17,41		+0,69	3,080
241	4	Eridani Φ	6	30,55	3	30,30		——	2 10 30,46		30,11		+0,35	2,136
242	5	9 Persei i	6	42,23		——	3	42 28	2 10 42,27		41,92		+0,35	4,100
243	Var.	68 Ceti o		——		——	6	52,10	2 10 52,10		51,80		+0,30	3,021
244	6	69 Ceti		——	5	20,70		——	2 13 20,70		19,76		+0,94	3,063
245	6	70 Ceti	1	39,26	4	39,37		——	2 13 39,35		38,82		+0,53	3,047
246	6	Fornacis κ		——	5	51,56		——	2 14 51,48		50,42		+1,06	2,729
247	4.5	Cassiopeae	4	20,50	5	20,38	10	19,69	2 15 20,13	20,22	20.48	—0,09	—0,35	4,788
248	6.7	Ceti	2	32,57	4	32,49		——	2 15 32,51		32,35		+0,16	3,185
249	6	24 Arietis ξ1		——	5	49,38		——	2 15 49,38		49,13		+0,25	3,197
250	6	71 Ceti		——	5	29,44		——	2 16 29,44		29,28		+0,16	3,022
251	6	Arietis	2	45,59	2	45,75	2	45,62	2 17 45,66		45,44		+0,22	3,198
252	5	72 Ceti ρ	6	50,33		——		——	2 17 50,33		50,13		+0,20	2,893
253	6	12 Trianguli c		——	1	20,44	5	20,39	2 18 20,43		20,15		+0,28	3,487
254	4	Hydri δ	4	46,56	2	47,45		——	2 18 47,06		46,02		+1,04	1,041
255	5	73 Ceti ξ2		——	12	14,29	12	14,29	2 19 14,29	14,25	14,11	+0,04	+0,18	3,171
256	4.5	Eridani π	4	49,63	4	49,52		——	2 20 49,56		47,66		+1,96	2,199
257	6.7	Arietis		——	5	53,53		——	2 20 53,55		53,00		+0,55	3,419
258	6.7	26 Arietis		——	5	14,14		——	2 21 14,16		13,54		+0,62	3,585
259	6	27 Arietis Ψ		——		——	6	36,09	2 21 36,12		35,78		+0,34	3,304
260	6	Fornacis	1	53,16	4	53,38		——	2 22 53,32		53,13		+0,19	2,732
261	5.6	75 Ceti u		——	5	36,94		——	2 23 36,94		37,17		—0,23	3,044
262	6.7	29 Arietis ω		——		——	4	42,98	2 23 43,00		42,59		+0,41	3 267
263	5	76 Ceti σ	6	7,81	1	7,53		——	2 24 7.77		7,54		+0,23	2,843
264	6.7	Arietis		——		——	11	13 94	2 24 13,96		13,58		+0.38	3,325
265	6.7	Ceti		——	5	11,07		——	2 26 11,07		10,83		+0,24	3,162
266	6	77 Ceti e1		——	5	25,78		——	2 26 25 78		25 42		+0,36	2,948
267	6	Fornacis		——	5	29,47		——	2 26 29,45		29,36		+0,09	2,627
268	6.7	Ceti	3	52,63	2	52,87		——	2 26 52,72		48,59		+4,13	3,153
269	4.5	78 Ceti ν	6	4,00	5	3,92	7	4,01	2 27 3,98	4,02	3,53	—0,04	+0,45	3,136
270	6	30 Arietis		——	2	17,58	4	17,58	2 27 17,61		16,55		+1,06	3,423

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No	1832	No	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
226	3	58 33,35	2	58 33,65		——	64 58 33,47		——		——	—17,483
227	30	20 7,65	11	20 7,82	50	20 8,22	67 20 7,98	20 8,67	20 6,62	—0,69	+ 1,36	17,461
228	6	48 41,49	5	48 41,79		——	55 48 41,63	48 41,93	48 37,14	—0,30	+ 4,49	17,381
229		——	5	51 35,69		——	64 51 35,69		51 31,04		+ 4,65	17,368
230		——		——	6	34 0,23	86 34 0,23		33 58,34		+ 1,89	17,322
231		——	3	17 44,35	2	17 44,00	71 17 44,21		17 44,14		+ 0,07	17,304
232	4	13 13,02	1	13 14,28		——	82 13 13,27		13 12,78		+ 0,49	17,252
233		——		——	4	29 18,03	60 29 18,03		29 13,87		+ 4,16	17,246
234		——	3	37 6,74		——	92 37 6,74		37 4,79		+ 1,95	17,226
235		——		——	5	34 59,64	69 34 59,64		34 53,44		+ 6,20	17,212
236		——	5	30 42,75		——	75 30 42,75	30 41,21	30 39,57	+1,54	+ 3,18	17,190
237	5	56 42,78	5	56 41,38		——	81 56 42,08	56 41,57	56 41,00	+0,51	+ 1,08	17,180
238	5	12 0,01		——		——	97 12 0,01		11 59,24		+ 0,77	16,974
239	4	52 47,19	2	52 47,29		——	70 52 47,22	52 47,23	52 46,37	—0,01	+ 0,85	16,966
240		——	5	2 23,91		——	89 2 23,91		2 36,85		— 12,94	16,942
241	5	17 33,24	5	17 33,14		——	142 17 33,19		17 33,83		— 0,64	16,883
242	4	55 48,97	5	55 49,99		——	34 55 49,54		55 47,79		+ 1,75	16,877
243		——		——		——	93 44 ——		44 35,16		——	16,868
244	5	22 35,49		——		——	90 22 35,49		22 32,30		+ 3,19	16,750
245	5	39 10,89		——		——	91 39 10,89		39 11,69		— 0,80	16,735
246		——	5	34 58,99		——	114 34 58,99		34 57,91		+ 1,08	16,677
247	5	21 32,95	5	21 30,86	3	21 31,25	23 21 31,75	21 34,08	21 36,78	—2,33	— 4,98	16,656
248		——	5	3 0,30		——	81 3 0,30		2 57,20		+ 3,10	16,644
249		——	4	9 19,38		——	80 9 19,38		9 14,75		+ 4,63	16,630
250	6	32 37,29		——		——	93 32 37,29		32 37,97		— 0,68	16,597
251	4	11 45,28		——		——	80 11 45,28		11 41,06		+ 4,22	16,535
252	5	3 3,96	5	3 4,18		——	103 3 4,07		3 2,80		+ 1,27	16,531
253		——	5	5 7,08		——	61 5 7,08		5 2,98		+ 4,10	16,507
254	5	25 35,45		——		——	159 25 35,45		25 36,10		— 0,65	16,481
255	6	17 49,27		——	5	17 49,56	82 17 49,41	17 48,68	17 50,54	+0,73	— 1,13	16,461
256	5	27 36,78	5	27 35,28		——	138 27 36,03		27 43,84		— 7,81	16,382
257		——	5	30 50,09		——	65 30 50,09		30 48,04		+ 2,05	16,379
258	5	53 41,69		——		——	70 53 41,69		53 37,39		+ 4,30	16,362
259	5	2 34,14		——		——	73 2 34,14		2 32,32		+ 1,82	16,343
260	2	17 34,48	3	17 35,67		——	113 17 35,19		17 35,08		+ 0,11	16,277
261		——	5	46 49,86		——	91 46 49,86		46 50,41		— 0,55	16,240
262		——	1	42 51,07	4	42 49 67	75 42 49,95		42 47,63		+ 2,32	16,235
263	5	59 9,24	5	59 8,84		——	105 59 9,04		59 1,81		+ 7,23	16,213
264		——	5	51 54,51		——	71 51 54,51		51 52,87		+ 1,64	16,209
265		——	5	15 49,63		——	83 15 49,63		15 45,80		+ 3,83	16,107
266	5	35 45,14		——		——	98 35 45,44		35 45,39		+ 0,05	16,094
267	5	58 24,09		——		——	118 58 24,09		58 25,05		— 0,96	16,090
268		——	1	55 5,86	4	55 9,39	83 55 8,68		55 54,64		— 45,96	16,075
269	5	8 43,96	1	8 43,90	5	8 42,97	85 8 43,42	8 38,36	8 36,24	+5,06	+ 7,18	16,062
270		——		——	10	5 17,99	66 5 17,99		5 19,00		— 1,01	16,052

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
				No.	1831	No.	1832	No.	1833				Green.	A. S.	
					s		s		s	h. m. s.	s.	s.	s.	s.	s.
271	6.7	Arietis			——	2	20,23	3	20,50	2 27 20,42		19,98		+0,44	+3,423
272	6	31 Arietis	υ	2	28,92		——	6	28,99	2 27 28,98		28,72		+0,26	3,234
273	6.7	Ceti		5	41,68		——		——	2 27 41,68		41,52		+0,16	3,166
274	6	80 Ceti	e^2		——		——	4	44,30	2 2 44,30		44,01		+0,29	2,947
275	5.6	81 Ceti	d^2		——	4	14,30		——	2 29 14,30		14,41		—0,11	3,010
276	5.6	32 Arietis	ν		——		——	6	17,62	2 29 17,64		17,19		+0,45	3,382
277	6	33 Arietis			——		——	4	53,13	2 30 53,16		52,59		+0,57	3,472
278	4	82 Ceti	δ	6	52,81	6	52,77		——	2 30 52,79	52,81	52,77	—0,02	+0,02	3,062
279	7	Ceti			——	3	25,01	1	25,30	2 31 25,23		24,20		+1,03	3,145
280	4.5	83 Ceti	ε	6	26,47	5	26,57		——	2 31 26,52	26,59	26,41	—0,07	+0,11	2,885
281	6	84 Ceti			——		——	5	38,17	2 3 38,17		37,37		+0,80	3,048
282	4	13 Persei	θ		——	3	46,00	1	46,09	2 32 46,07	45,86	45,64	—0,21	+0,43	4,046*
283	6	34 Arietis	μ		——		——	5	54,69	2 32 54,71		53,61		+1,10	3,357
284	7	Arietis			——		——	5	58,69	2 32 58,71		57,55		+1,16	3,211
285	5	Eridani			——	5	23,78		——	2 33 23,75		23,78		—0,03	2,278
286	6	85 Ceti			——		——	3	27,00	2 33 27,01		26,59		+0,42	3,214
287	4	35 Arietis	a		——	5	36,79		——	2 33 36,81	36,75	36,11	+0,06	+0,70	3,490
288	4.5	Eridani	ι		——	5	2,48		——	2 34 2,46		1,57		+0,89	2,356
289	3	86 Ceti	γ	6	36,11		——		——	2 34 36,11	36,26	35,98	—0,15	+0,13	3,105
290	7	36 Arietis			——		——	3	57,54	2 34 57,56		56,96		+0,60	3,324
291	6.7	37 Arietis	o		——		——	3	18,39	2 35 18,41		17,77		+0,64	3,286
292	5.6	38 Arietis		1	48,99		——	7	49,14	2 35 49,13		48,41		+0,72	3,242
293	4	87 Ceti	μ	6	52,30	5	52,24		——	2 35 52,27	52,23	51,66	+0,04	+0,61	3,207
294	4	89 Ceti	π	6	7,86	2	7,95		——	2 36 7,89	7,79	7,46	+0,10	+0,43	2,849
295	5	Hydri	ε		——		——		——	2 36 ——		54,00		——	0,868
296	5	Hydri	ξ	1	2,03	3	2,55	6	2,39	2 37 2,29		0,65		+1,64	0,866
297	5.6	1 Eridani	τ^1		——		——	4	16,30	2 37 16,28		15,65		+0,63	2,772
298	4	39 Arietis	b		——	6	55,41		——	2 37 55,44		55,26		+0,18	3,530
299	5	Persei			——	4	29,51	2	29,76	2 38 29,65		29,55		+0,10	4,292
300	6.7	16 Trianguli			——	2	0,99	2	0,86	2 39 0,96		0,19		+0,77	3,457
301	6	40 Arietis			——		——	7	7,90	2 39 7,92		7,31		+0,61	3,339
302	5	42 Arietis	π		——	4	55,85	2	55,73	2 39 55,82		55,03		+0,79	3,326
303	4.5	16 Persei	p^1		——	6	0,38		——	2 40 0,42	0,31	0,47	+0,11	—0,05	3,729
304	3	41 Arietis	c	3	6,77	4	6,81		——	2 40 6,80	6,76	6,63	+0,04	+0,17	3,497
305	5	Fornacis	ν	5	55,51		——		——	2 41 55,54		55,74		—0,23	2,388
306	5	Fornacis	β		——	5	3,74		——	2 42 3,72		3,36		+0,36	2,502
307	6	43 Arietis	σ	1	14,00	1	13,79	2	14,11	2 42 14,04		13,01		+1,00	3,291
308	5	18 Persei	τ	6	23,77	1	23,53	1	23,61	2 42 23,74	23,54	22,99	+0,20	+0,75	4,182
309	6	Fornacis	γ^1		——		——	5	24,63	2 42 24,60		24,45		+0,15	2,658
310	5	Hydri	ζ		——	1	59,13	4	59,21	2 42 59,07		58,63		+0,44	0,874
311	4.5	2 Eridani	τ^2	1	25,27	6	25,24	7	25,33	2 43 25,27	25,41	25,02	—0,14	+0,25	2,729
312	7	Arietis		1	51,26	4	51,25		——	2 43 51,26		50,77		+0,49	3,316
313	6	45 Arietis	p^2	1	23,03	4	22,84		——	2 46 22,90		22,35		+0,55	3,350
314	6	46 Arietis	p^3	1	58,12	2	57,84	5	57,95	2 46 57,96	57,92	57,86	+0,04	+0,10	3,346
315	6.7	Arietis		1	15,03	2	15,49	3	15,33	2 47 15,34		15,24		+0,10	3,188

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
271		—		—		—	66 —		5 20,40		—	—16,048
272		—		—	5	17 3,81	78 17 3,81		17 2,98		+ 0,83	16,040
273		—		—	5	0 18,04	83 0 18,04		0 18,81		— 0,77	16,028
274		—		—	6	33 57,28	98 33 57,28		33 52,84		+ 4,44	16,026
275		—	5	7 36,91		—	94 7 36,91		7 35,82		+ 1,09	15,947
276		—	5	46 13,53		—	68 46 13,53		46 11,91		+ 1,62	15,945
277		—	5	39 51,92		—	63 39 51,92		39 51,52		+ 0,40	15,860
278	5	24 4,86	3	24 3,96	1	24 5,79	90 24 4,47	24 2,00	24 3,52	+2,47	+ 0,95	15,859
279	3	36 57,15	2	36 58,86		—	84 36 57,83		36 56,40		+ 1,43	15,831
280	5	35 20,08	4	35 18,86		—	102 35 19,54	35 11,73	35 19,43	+7,81	+ 0,11	15,829
281		—	3	24 53,23	2	24 51,99	91 24 52,73		24 48,49		+ 4,24	15,766
282	4	29 15,63		—	5	29 17,63	41 29 16,74	29 16,71	29 16,09	+0,03	+ 0,65	15,760
283		—		—	5	42 31,23	70 42 31,23		42 29,06		+ 2,17	15,752
284		—		—	5	10 42,50	80 10 42,50		10 34,76		+ 7,74	15,747
285	5	36 53,83		—		—	133 36 53,83		36 55,92		— 2,09	15,723
286		—		—	7	58 50,43	79 58 50,43		58 38,07		+ 12,36	15,722
287	4	0 42,14	5	0 44,01		—	63 0 43,17	0 46,40	0 45,32	—3,23	— 2,15	15,713
288	4	34 40,94		—		—	130 34 40,94		34 38,47		+ 2,47	15,688
289	5	28 34,63		—		—	87 28 34,63	28 35,90	28 36,38	—1,27	— 1,75	15,658
290		—	5	57 1,71		—	72 57 1,71		57 5,05		— 3,34	15,640
291		—		—	5	24 20,15	75 24 20,15		24 11,62		— 8,53	15,621
292	3	15 52,51		—	2	15 55,75	78 15 53,81		15 53,70		+ 0,11	15,593
293	5	36 2,08	5	36 0,49	5	36 1,52	80 36 1,36	35 58,82	35 54,02	+2,54	+ 7,34	15,590
294	5	34 30,30	5	34 28,73		—	104 34 29,51	34 28,58	34 17,34	+0,93	+ 12,17	15,574
295		—		—		—	158 —		58 49,90		—	15,528
296		—		—	5	59 20,50	158 59 20,50		59 17.78		+ 2,72	15,522
297		—	5	17 16,07		—	109 17 16,07		17 15,79		+ 0,28	15,511
298	5	27 22,64	4	27 20,49	4	27 20,82	61 27 21,42	27 21,39	27 20,26	+0,03	+ 1,16	15,476
299	6	48 32,77		—		—	34 48 32,77		48 30,91		+ 1,86	15,446
300		—	5	31 6,28		—	65 31 6,28		31 3,60		+ 2,68	15,416
301		—	2	25 10,43		—	72 25 10,43		25 8,12		+ 2,31	15,409
302	5	14 18,16	5	14 19,43		—	73 14 18,60		14 18,69		— 0,09	15,364
303		—	5	22 44,17		—	52 22 44,17	22 42,40	22 40,43	+1,77	+ 3,74	15,360
304		—	1	26 11,10	9	26 11,60	63 26 11,55	26 12,40	26 12,05	—0,85	— 0,50	15,354
305		—		—	5	6 23,31	128 6 23,31		6 26,48		— 3,17	15,249
306	3	6 52,17	1	6 53,84		—	123 6 52,59		7 2,16		— 9,57	15,242
307	3	36 54,03	3	36 56,37		—	75 36 55,20		36 51,89		+ 3,31	15,234
308	5	55 52,31		—	12	55 51,75	37 55 51,86	55 54,30	55 57,78	—2,44	— 5,92	15,227
309	5	15 19,65		—		—	115 15 19,65		15 13,42		+ 6,23	15,222
310	5	19 22,34		—		—	158 19 22,34		19 15,49		+ 6,85	15,187
311	5	42 2,77	5	42 0,69		—	111 42 1,73	41 59,00	41 56,62	+2,73	+ 5,11	15,165
312	5	12 24,83		—		—	74 12 24,83		12 22,52		+ 2,31	15,142
313	3	21 14,04	2	21 14,41		—	72 21 14,19		21 9,12		+ 5,07	14,996
314	5	39 6,05		—		—	72 39 6,05	39 5,30	39 5,78	+0,75	+ 0,27	14,961
315	5	17 55,56		—		—	82 17 55,56		17 54,51		+ 1,05	14,944

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
316	3	3 Eridani η	6	13,45	4	13,60	2	13,50	2 48 13,51	13,57	13,61	—0,06	—0,10	+2,917
317	6	47 Arietis		——		——	5	29,25	2 48 29,27		27,87		+1,40	3,394
318	7	Arietis		——	3	16,53	3	16,18	2 49 16,37		15,61		+0,76	3,412
319	5	48 Arietis ε	6	37,30	6	37,30	5	37,27	2 49 37,30	37,27	36,98	+0,03	+0,32	3,408
320	5.6	4 Eridani		——		——	6	55,75	2 49 55,73		55,56		+0,17	2,656
321	5.6	6 Eridani		——		——	4	37,53	2 50 37,51		37,41		+0,10	2,660
322	5.6	91 Ceti λ		——		——	3	43,36	2 50 43,36		42,56		+0,80	3,199
323	6	5 Eridani Z^1		——		——	3	12,62	2 51 12,62		12,57		+0,05	3,018
324	5	Horologii β		——		——		——	2 51 ——		18,98		——	1,222
325	4.5	Eridani θ^1		——	5	53,78		——	2 51 53,68		53,86		—0,18	2,277
326	6	49 Arietis		——		——	3	1,30	2 52 1,33		1,07		+0,26	3,508
327	6	Fornacis ζ		——		——	3	12,37	2 52 12,35		12,17		+0,18	2,624
328	7	51 Arietis		——		——	2	29,57	2 52 29,60		28,48		+1,12	3,512
329	4	23 Persei γ	6	40,78	1	40,89		——	2 52 40,80	40,60	40,28	+0,20	+0,52	4,273
330	5.6	8 Eridani ρ^1	1	54,81		——	5	54,88	2 52 54,86		54,64		+0,22	2,934
331	5	Persei		——	5	58,33		——	2 52 58,39		58,41		—0,02	4,426
332	2-3	92 Ceti ω	9	30,35		——	14	30 36	2 53 30,36	30,32	30,15	+0,04	+0,21	3,123
333	6	Fornacis ε		——		——	4	23,27	2 54 23,24		22,36		+0,88	2,563
334	4	25 Persei β	5	26,20	2	26,28		——	2 54 26,26	26,27	25,77	—0,01	+0,49	3,792
335	5	9 Eridani ρ^2	3	27,73	6	27,86		——	2 54 27,82		27,60		+0,22	2,933
336	4	11 Eridani E		——	3	59,33	3	59,24	2 54 59,26		59,15		+0,11	2,651
337	6	Fornacis		——		——		——	2 55 ——		0,29		——	2,663
338	6.7	52 Arietis h		——	3	36,59	1	36,72	2 55 36,65		35,61		+1,04	3,492
339	5	10 Eridani ρ^3		——	3	1,80	2	1,81	2 56 1,80		1,43		+0,37	2,933
340	4	Persei		——	5	59,42	1	59,28	2 56 59,41	58,76	54,63	+0,65	+4,78	4,138
341	2.3	26 Persei β	5	16,03	3	15,87	1	16,10	2 57 16,00	15,97	15,43	+0,03	+0,57	3,859
342	6	53 Arietis		——		——	5	58,81	2 57 58,83		58,61		+0,22	3,358
343	5	27 Persei $\varkappa$	6	11,99	4	12,00		——	2 58 12,01		11,53		+0,18	3,979
344	6.7	54 Arietis		——		——	5	50,71	2 58 50,73		49,85		+0 88	3,376
345	7	Arietis		——		——	6	43,01	2 59 43,03		42,59		+0,44	3,413
346	6.7	Arietis		——	1	29,77	4	29,51	3 0 29,58		25,30		+4,28	3,595
347	6	Fornacis o		——	4	40,39		——	3 0 40,37		39,82		+0,55	2,554
348	4	57 Arietis δ	6	2,16	6	2,18	6	2,16	3 2 2,18	2,09	2,03	+0,09	+0,15	3,398
349	5	Hydri θ^1		——	5	58,68		——	3 1 58,57		57,45		+1,12	0,034
350	6.7	Ceti		——		——	6	9,12	3 2 9,14		8,89		+0,25	3,278
351	6	56 Arietis i		——	2	14,82	3	14,94	3 2 14,91		13,93		+0,98	3,546
352	5.6	94 Ceti k^1		——	6	12,36		——	3 4 12,36		12,08		+0,28	3,037
353	3.4	12 Eridani	6	56,20	2	56,40	2	56,32	3 4 56,26	56,41	56,59	—0,15	—0,33	2,561*
354	5	58 Arietis ζ	2	15,50	12	15,51	9	15,60	3 5 15,56	15,65	15,01	+0,01	+0,55	3,427
355	4	13 Eridani ζ	5	40,67	7	40,68	3	40,59	3 7 40,66	40,67	40,48	—0,01	+0,18	2,906
356	6	14 Eridani		——		——	5	27,89	3 8 27,89		27,05		+0,84	2.899
357	5.6	95 Ceti k^2		——	5	47,13		——	3 9 47,13		47,17		—0,04	3,041
358	6.7	59 Arietis		——		——	5	54,84	3 9 54,86		54,25		+0,61	3,558
359	5.6	Tauri		——	4	11,58	1	11,59	3 10 11,60		10,71		+0,89	3,601
360	6	96 Ceti $\varkappa^1$		——		——	6	33,61	3 10 33,61		33,13		+0,48	3,115

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
316	4	34 19,53	5	34 17,49		——	99 34 18,40	34 16,16	34 10,68	+2,24	+ 7,72	—14,887
317		——	5	0 41,40		——	70 0 41,40		0 30,76		+ 10,64	14,874
318		——	4	3 32,35		——	69 3 32,35		——		——	14,827
319	5	20 11,98	5	20 13,26		——	69 20 12,62	20 13,09	20 9,02	—0,47	+ 3,60	14,806
320		——	5	32 28,15		——	114 32 28,15		32 20,66		+ 7,49	14,786
321	5	17 11,18		——		——	114 17 11,18		17 7,08		+ 4,10	14,745
322	2	45 59,08		——		——	81 45 59,08		46 0,73		— 1,65	14,741
323		——		——	5	8 16,66	93 8 16,66		8 16,04		+ 0,62	14,711
324		——		——		——	153 ——		48 0,39		——	14,701
325	5	58 53,13		——		——	130 58 53,13		58 54,04		— 0,91	14,669
326		——	3	12 28,53		——	64 12 28,53		12 28,36		+ 0,17	14,664
327		——		——	5	57 6,41	115 57 6,41		57 7,46		— 1,05	14,651
328		——		——	5	3 3,00	64 3 3,00		3 6,14		— 3,14	14,637
329	5	9 32,30	5	9 31,23		——	37 9 31,76	9 31,07	9 31,64	+0,69	+ 0,12	14,627
330	2	19 46,07	5	19 45,47	3	19 45,90	98 19 45,72		19 44,09		+ 1,63	14,610
331	5	57 39,88		——		——	33 57 39,88		57 43,70		— 3,82	14,609
332	15	34 25,68	9	34 27,48	4	34 26,91	86 34 26,43	34 27,70	34 25,80	—1,27	+ 0,63	14,575
333		——		——	6	44 17,10	118 44 17,10		44 7,64		+ 9,46	14,521
334	4	49 2,19		——		——	51 49 2,19	49 0,11	48 59,60	+2,08	+ 2,59	14,520
335	3	21 1,54	2	20 58,70	1	20 59,86	98 21 0,31		21 4,58		— 4,27	14,517
336	2	17 14,19		——	3	17 13,57	114 17 13,82	17 14,71	17 10,05	—0,89	+ 3,77	14,484
337		——		——	2	38 21,58	113 38 21,58		38 46,58		— 25,00	14,483
338		——	5	24 16,71		——	65 24 16,71		24 14,28		+ 2,43	14,449
339	1	15 44,91	2	15 42,95		——	98 15 43,60		15 44,87		— 1,27	14,422
340	5	2 7,51	5	2 8,34		——	41 2 7,92	2 8,21	2 8,23	—0,29	— 0,31	14,370
341	12	41 55,98	5	41 55,43		——	49 41 55,79	41 52,93	41 40,84	+2,86	+ 14,95	14,349
342		——	4	46 25,86		——	72 46 25,86		46 26,30		— 0,44	14,304
343	5	47 8,51	3	47 8,78		——	45 47 8,61		47 9,76		— 1,15	14,292
344		——		——	5	51 19,66	71 51 19,66		51 16,84		+ 2,82	14,251
345	2	53 13,11		——	4	53 16,13	69 53 15,12		53 12,68		+ 2,44	14,197
346		——		——	5	45 3,81	63 45 3,81		——		——	14,153
347	4	28 42,21		——		——	118 28 42,21		28 48,92		— 6,71	14,136
348	4	54 52,34	6	54 53,70	6	54 52,29	70 54 52,84	54 51,33	54 49,93	+1,51	+ 2,91	14,053
349		——		——	1	33 29,13	162 33 29,13		33 19,60		+ 9,53	14,051
350	2	35 37,37	3	35 37,10		——	77 35 37,21		35 39,98		— 2,77	14,046
351		——	1	22 53,39	4	22 54,09	63 22 53,95		22 54,13		— 0,18	14,041
352	5	49 48,04	1	49 44,34		——	91 49 47,42		49 46,48		+ 0,94	13,916
353	5	39 15,73	4	39 14,95		——	119 39 15,38	39 12,80	39 8,29	+2,58	+ 7,09	14,689
354	5	35 2,61	9	35 3,53	5	35 4,49	69 35 3,54	35 1,70	34 59,11	+1,84	+ 4,43	13,851
355	5	26 58,06	5	26 55,20		——	99 26 56,63	26 55,61	26 53,17	+1,02	+ 3,46	13,696
356	5	46 55,14		——		——	99 46 55,14		46 51,90		+ 3,24	13,646
357	5	32 49,39		——		——	91 32 49,39		32 51,69		— 2,30	13,561
358	2	33 28,00	4	33 29,19		——	63 33 28,79		32 29,33		— 0,54	13,554
359		——	2	33 58,83	3	33 59,64	61 33 59,32		33 57,56		+ 1,76	13,537
360		——		——	5	15 6,41	87 15 6,41		15 7,94		— 1,53	13,512

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s		s		s	h. m. s.	s.	s.	s.	s.	s.
361	5.6	15 Eridani		——		——	5	56,66	3 10 56,64		56,62		+0,02	+2,646
362	6	61 Arietis τ^1		——		——	3	32,39	3 11 32,41		32,42		—0,01	3,439
363	3.4	16 Eridani	1	2,81	6	2,80	1	2,70	3 12 2,78	2,95	2,51	—0,17	+0,27	2,659
364	6	62 Arietis		——		——	5	7,79	3 12 7,81		7,16		+0,65	3,574
365	2.3	33 Persei α	8	22,05	5	22,11	2	21,87	3 12 22,05	22,14	21,77	—0,09	+0,28	4,221
366	6	97 Ceti κ^2		——		——	5	20,00	3 12 20,00		19,97		+0,03	3,121
367	7	63 Arietis τ^2		——		——	5	6,09	3 13 6,11	5,90	5,24	+0,21	+0,87	3,433
368	4	Eridani e	6	13,19	4	13,31	2	13,72	3 13 13,30		4,55		——	2,114
369	5.6	64 Arietis g		——		——	5	24,09	3 14 24,11		24,04		+0,07	3,517
370	6	65 Arietis		——	14	45,66		——	3 14 45,68		44,87		+0,81	3,437
371	4	Camelopar	6	31,97		——		——	3 15 31,97	31,50	31,53	+0,47	+0,44	4,765
372	4.5	1 Tauri o	2	47,02	5	46,72		——	3 15 46,80	47,00	46,66	—0,20	+0,14	3,217
373	4.5	Camelopar		——	4	33,55		——	3 16 33,55	33,51	33,23	+0,04	+0,32	4,702
374	7	Tauri		——	1	28,30	4	28,59	3 17 28,55		28,40		+0,15	3,400
375	4	2 Tauri ξ		——	6	4,49	10	4,53	3 18 4,52	4,51	4,15	+0,01	+0,37	3,231
376	6,7	66 Arietis		——		——	5	38,29	3 18 38,31		38,13		+0,18	3,484
377	5	35 Persei ϵ	6	45,99		——		——	3 18 45,99		46,60		—0,61	4,178
378	6	4 Tauri s		——	5	14,15		——	3 21 14,16		13,91		+0,25	3,263
379	5.6	5 Tauri f		——		——	15	36,69	3 21 36,71	36,66	36,18	+0,05	+0,53	3,293
380	4.5	17 Eridani	6	17,23	9	17,28	2	17,35	3 22 17,27	17,31	17,18	—0,04	+0,09	2,966
381	6.7	6 Tauri t		——		——	5	31,18	3 23 31,20		30,71		+0,49	3,228
382	5	Eridani z	3	14,40	5	14,56		——	3 24 14,48		14,42		+0,06	2,134
383	6	7 Tauri		——	3	30,41	3	30,45	3 24 30,45		29,60		+0,85	3,529
384	5	37 Persei ψ	5	35,35	6	35,37		——	3 24 35,39		34,59		+0,80	4,208
385	4	18 Eridani ε		——	7	1,39	6	1,27	3 25 1,32	1,49	1,22	—0,17	+0,10	2,884
386	4	19 Eridani t^2	6	22,16	2	22,28	4	22,41	3 26 22,26	22,26	21,97	0,00	+0,29	2,641
387	6	9 Tauri		——	5	6,10		——	3 27 6,11		6,08		+0,03	3,506
388	5	10 Tauri E	4	18,51	7	18,34		——	3 28 18,40		18,42		—0,02	3,065
389	6	20 Eridani F		——		——	6	38,36	3 28 38,34		38,08		+0,26	2,725
390	7	Tauri		——	4	56,25	1	56,37	3 29 56,28		55,86		+0,42	3,371
391	6	21 Eridani		——	3	43,96	3	43,84	3 30 43,90		43,35		+0,55	2,953
392	6	11 Tauri		——	5	45,06		——	3 30 45,08		44,78		+0,30	3,558
393	3.4	39 Persei δ	6	59,87	6	59,93		——	3 30 59,92	59,84	59,76	+0,08	+0,16	4,217
394	5	Eridani y	5	4,14	1	4,22		——	3 31 4,15		4,21		—0,06	2,149
395	6	12 Tauri		——		——	4	6,77	3 31 6,77		6,50		+0,27	3,114
396	6	Fornacis τ		——		——	5	48,63	3 31 48,61		48,62		—0,01	2,489
397	5.6	22 Eridani		——		——	5	19,71	3 32 19,71		19,34		+0,37	2,960
398	6.7	13 Tauri F^1		——	3	38,25	1	38,34	3 32 38,29		38,01		+0,28	3,439
399	4.5	41 Persei ν	5	48,50	4	48,57		——	3 33 48,54		47,49		+1,05	4,035
400	4	Persei		——	5	48,04		——	3 33 48,06	48,43	48,13	—0,37	—0,07	3,732
401	7	14 Tauri F^2		——		——	3	5 19	3 34 5,22		4,58		+0,64	3,440
402	5.6	16 (Pleiadum g)		——		——	4	49,88	3 34 49,90	50,11	49,48	—0,21	+0,42	3,542
403	4.5	17 (Pleiadum b)	3	55,01	6	54,79		——	3 34 54,87	54,75	54,59	+0,12	+0,28	3,538
404	7	18 (Pleiadum m)		——		——	5	9,21	3 35 9,24		8,60		+0,64	3,555
405	5	19 (Pleiadum c)	6	13,42	1	13,71		——	3 35 13,47	13,38	12,87	+0,09	+0,60	3,546

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
361		——		——	5	7 45,57	113 7 45,57		7 44,74		+ 0,83	—13,485
362		——		——	5	27 52,71	69 27 52,71		27 49,71		+ 3,00	13,448
363	5	22 24,07	5	22 24,04		——	112 22 24,05	22 27,35	22 27,58	—3,30	— 3,53	13,414
364		——		——	5	0 5,10	63 0 5,10		0 4,27		+ 0,83	13,411
365	29	44 41,29	6	44 40,08	2	44 40,76	40 44 41,08	44 39,81	44 36,33	+1,27	+ 4,75	13,397
366	5	56 5,20		——		——	86 56 5,20		56 3,53		+ 1,67	13,396
367		——	1	51 52,68	4	51 55,57	69 51 54,99	51 52,61	51 54,14	+2,38	+ 0,85	13,348
368	4	42 57,22	5	42 57,83		——	133 42 57,56		43 25,88		— 28,32	13,346
369		——		——	5	52 37,11	65 52 37,11		52 30,66		+ 6,45	13,262
370	3	47 56,69	8	47 57,53		——	69 47 57,30		47 50,13		+ 7,17	13,239
371	5	39 16,27	5	39 15,23		——	30 39 15,75	39 14,58	39 15,52	+1,17	+ 0,23	13,191
372		——	6	34 3,80	5	34 3,75	81 34 3,78	34 4,28	34 2,02	—0,50	+ 1,76	13,171
373	5	42 44,86	5	42 43,78		——	31 42 44,32	42 45,88	42 45,71	—1,56	— 1,39	13,123
374		——	1	50 14,59	4	50 13,84	71 50 13,99		50 15,09		— 1,10	13,059
375	5	51 31,83	5	51 31,93		——	80 51 31,88	51 29,75	51 28,47	+2,13	+ 3,41	13,019
376	5	46 48,68		——		——	67 46 48,68		46 48,85		— 0,17	12,982
377	5	35 29,89	2	35 28,41		——	42 35 29,47		35 33,92		— 4,45	12,974
378	3	14 46,39	2	14 45,06		——	79 14 45,86		14 39,07		+ 6,79	12,808
379		——	2	38 39,31	6	38 38,74	77 38 38,88	38 40,25	38 39,50	—1,37	— 0,62	12,783
380	4	39 25,93	6	39 24,22		——	95 39 24,90	39 23,86	39 22,98	+1,04	+ 1,92	12,736
381	5	11 59,93		——		——	81 11 59,93		11 58,42		+ 1,51	12,654
382	4	56 25,83	3	56 27,69		——	131 56 26,63		56 16,93		+ 9,70	12,602
383	5	6 18,15		——		——	66 6 18,15		6 18,46		— 0,31	12,588
384	5	22 25,27	5	22 25,32		——	42 22 25,30		22 30,52		— 5,22	12,584
385	5	1 58 93	5	1 58,21		——	100 1 58,57	1 55,34	1 55,55	+3,23	+ 3,02	12,550
386	5	12 5,07	3	12 2,72		——	112 12 4,19	12 3,74	12 3,07	+0,45	+ 1,12	12,458
387	6	21 2,72		——		——	67 21 2,72		20 59,48		+ 3,24	12,409
388	8	8 15,91	5	8 16,40		——	90 8 16,10		8 8,18		+ 7,92	12,325
389		——		——		——	108 ——		1 33,81		——	12,302
390	1	0 53,16	4	0 56,50		——	74 0 55,83		0 54,88		+ 0,95	12,214
391		——	5	10 12,55		——	96 10 12,55		10 8,27		+ 4,28	12,158
392		——	1	13 15,29	4	13 16,26	65 13 16,07		13 12,74		+ 3,33	12,158
393	5	45 26,20	5	45 25,59	12	45 25,76	42 45 25,82	45 27,03	45 29,39	—1,21	— 3,57	12,142
394	5	49 48,86	5	49 48,25		——	130 49 48,55		49 47,64		+ 0,91	12,132
395		——		——	5	29 41,79	87 29 41,79		29 38,41		+ 3,38	12,131
396		——	1	29 43,36	4	29 44,45	118 29 44,23		29 47,08		— 2,85	12,081
397		——	1	45 32,49	4	45 33,15	95 45 33,02		45 30,67		+ 2,35	12,046
398	1	50 35,93	3	50 38,14		——	70 50 37,89		50 36,18		+ 1,71	12,026
399	5	57 31,42	4	57 29,45		——	47 57 30,55	57 35,22	57 33,68	—4,67	— 3,13	11,946
400	5	15 0,79	5	15 1,64		——	58 15 1,22		15 2,49		— 1,27	11,944
401		——	1	52 18,63	4	52 20,64	70 52 20,24		52 16,90		+ 3,34	11,924
402		——		——	3	14 43,54	66 14 43,54	14 44,55	14 42,42	—1,01	+ 1,12	11,872
403	4	25 15,65	7	25 16,02		——	66 25 15,89	25 16,45	25 11,26	—0,56	+ 4,63	11,866
404		——		——	7	41 42,10	65 41 42,10		41 38,41		+ 3,69	11,850
405	4	3 56,95		——	5	3 57,68	66 3 57,36	4 0,15	3 54,45	—2,79	+ 2,91	11,845

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenb Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
406	3.4	23 Eridani δ		—	5	12,42		—	3 35 12,41	12,26	12,45	+0,15	—0,04	+2,871
407	6	Eridani		—		—	5	32,78	3 35 32,77		32,48		+0,29	2,858
408	5	Fornacis δ		—	5	34,22		—	3 35 34,19		34,37		—0,18	2,381
409	5	20 (Pleiadum c)		—	2	50,71	2	50,46	3 35 50,59		50,25		+0,34	3,545
410	5	23 (Plejadum d)		—	5	22,05		—	3 36 22,07	22,05	22,06	+0,02	+0,01	3,537
411	5	Eridani h		—		—	5	36,72	3 36 36,74		35,93		+0,81	2,227
412	6	29 Tauri u^1		—		—	5	45,45	3 36 45,45		44,93		+0,52	3,173
413	7	(Pleiadum)		—		—	3	30,38	3 37 30,40		30,17		+0,23	3,546
414	3	25 Tauri η	3	30,76	1	30,66	1	30,65	3 37 30,73	30,65	30,27	+0,08	+0,46	3,542
415	5	26 Eridani π		—	6	12,35		—	3 38 12,34		12,17		+0,17	2,824
416	7	Tauri		—		—	5	24,79	3 38 24,82		24,73		+0,09	3,528
417	6	30 Tauri e		—	5	4,13		—	3 39 4,15		3,11		+1,04	3,273
418	5	27 (Pleiadum f)	3	10,98	6	11,17		—	3 39 11,12		10,72		+0,40	3,543
419	5.6	28 (Pleiadum h)		—		—	5	12,28	3 39 12,30		11,65		+0,65	3,545
420	6	Fornacis σ		—		—	5	36,87	3 39 36,83		36,62		+0,21	2,440
421	5	27 Eridani m^1	6	37,44	3	37,40		—	3 39 37,42		37,31		+0,11	2,587
422	7	Tauri		—	4	3,20	1	3,55	3 40 3,31		3,06		+0,25	3,504
423	6.7	(Pleiadum)		—		—	5	14,08	3 40 14,11		13,34		+0,77	3,580
424	5	28 Eridani m^2		—	5	26,50		—	3 40 26,47		26,96		—0,49	2,571
425	4	Reticuli β		—	4	7,20		—	3 42 7,16		6,56		+0,60	0,668
426	5	Eridani		—	6	24,07		—	3 42 24,06		23,71		+0,35	2,202
427	6	31 Tauri u^2		—	5	3,24		—	3 43 3,24		2,52		+0,72	3,184
428	5	Eridani g	5	9,94		—		—	3 43 9,94		10,50		—0,56	2,244
429	7	Tauri		—	5	34,25		—	3 43 34,25		33,40		+0,85	3,402
430	3.4	44 Persei ζ	6	35,36	2	35,33	13	35,36	3 43 35,37	35,35	35,07	+0,02	+0,30	3,742
431	6	30 Eridani		—		—	5	24,18	3 44 24,18		23,70		+0,48	2,954
432	5	32 Eridani		—	5	51,69		—	3 45 51,69		51,65		+0,04	3,001
433	3.4	45 Persei ε		—	12	36,19	5	36,03	3 46 36,19	36,18	36,03	+0,01	+0,16	3,988
434	5.6	33 Eridani l		—		—	5	34,31	3 47 34,28		33,68		+0,60	2,545
435	6	32 Tauri		—		—	5	57,39	3 47 57,41		56,77		+0,64	3,519
436	6.7	33 Tauri		—	5	6,88		—	3 47 6,90		6,39		+0,51	3,535
437	5	Eridani i	5	14,82	4	15,00		—	3 47 14,89		15,03		—0,14	2,278
438	5	46 Persei ξ	6	5,15	4	5,08		—	3 48 5,13		4,37		+0,76	3,861
439	3	Hydri γ		—	4	57,00	1	57,41	3 49 56,94		55,50		+1,44	—1,068
440	2.3	34 Eridani γ^1	1	11,89	6	11,71	12	11,76	3 50 11,74	11,73	11,53	+0,01	+0,21	+2,787
441	6.7	Tauri		—	5	8,62		—	3 51 8,63		8,26		+0,37	3,429
442	7	34 Tauri		—	4	20,47	1	20,65	3 51 20,51		18,96		+1,55	3,473
443	4	35 Tauri λ	6	22,97	2	22,95	7	22,82	3 51 22,90	22,88	22,36	+0,02	+0,54	3,309
444	5	36 Eridani k	4	46,08	1	45,83		—	3 52 46,03		45,68		+0,35	2,551
445	5	35 Eridani		—	6	1,68		—	3 53 1,68		1,58		+0,10	3,028
446	5	38 Tauri ν		—	6	13,64		—	3 54 13,64		13,60		+0,04	3,178
447	6.7	36 Tauri		—	5	19,54		—	3 54 19,55		19,32		+0,23	3,567
448	5	37 Tauri A^1	6	46,42	7	46,58	5	46,50	3 54 46,51	46,48	46,12	+0,03	+0,39	3,520
449	6.7	39 Tauri A^2		—	2	24,24	3	24,42	3 55 24,37		23,99		+0,38	3,519
450	5	Reticuli δ		—	5	6,41		—	3 56 6,31		5,87		+0,44	0,925

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
406		5 20 17,16		5 20 18,50		——	100 20 17,83	20 19,43	20 13,19	—1,60	+ 4,64	—11,243*
407		——		——	5	1 23,25	101 1 23,25		1 21,53		+ 1,72	11,820
408		5 28 44,61		5 28 45,78		——	122 28 45,19		28 44,09		+ 1,10	11,817
409		1 9 46,07		——	4	9 49,13	66 9 48,72		9 46,70		+ 2,02	11,801
410		——		——	7	34 52,10	66 34 52,10	34 54,15	34 42,51	—2,05	+ 9,59	11,763
411		——		5 50 49,97		——	127 50 49,97		50 51,80		— 1,83	11,744
412		——		1 28 58,45	4	28 55,30	84 28 55,93		28 56,18		— 0,25	11,735
413		——		——	4	14 13,97	66 14 13,97		14 12,24		+ 1,73	11,683
414		5 25 12,74		4 25 13,43		——	66 25 13,05	25 15,35	25 14,50	—2,30	— 1,45	11,682
415		4 37 59,78		——	1	37 59,01	102 37 59,63		38 0,89		— 1,26	11,631
416		——		——	5	6 6,06	67 6 6,06		6 2,32		+ 3,74	11,618
417	2	——		——	3	22 47,91	79 22 47,91		22 44,89		+ 3,02	11,572
418		4 27 59,19		5 27 59,24		——	66 27 59,22		28 0,02		— 0,80	11,563
419		——		5 22 58,05		——	66 22 58,05		22 59,47		— 1,42	11,562
420		——		——	5	51 56,75	119 51 56,75		51 54,52		+ 2,23	11,530
421		5 44 59,81		——		——	113 44 59,81		45 3,52		— 3,71	10,939*
422		——		——	5	16 23,32	68 16 23,32		16 22,08		+ 1,24	11,501
423		1 56 7,92		——	4	56 8,02	64 56 8,00		55 59,42		+ 8,58	11,489
424		5 24 1,21		——		——	114 24 1,21		23 57,14		+ 4,07	11,470
425		——		5 20 13,78		——	155 20 13,78		20 20,21		— 6,43	11,346
426		——		5 8 18,42		——	128 8 18,42		8 13,25		+ 5,17	11,329
427		——		5 58 30,49		——	83 58 30,49		58 32,01		— 1,52	11,285
428		5 42 45,84		5 42 48,38		——	126 42 47,11		42 45,02		+ 2,09	11,273
429		——		——	7	10 45,05	73 10 45,05		10 45,19		— 0,14	11,248
430		5 37 17,80		7 37 18,32	5	37 17,91	58 37 18,04	37 19,36	37 22,78	—1,32	— 4,74	11,247
431		——		5 52 7,20		——	95 52 7,20		52 3,52		+ 3,68	11,186
432		5 27 23,63		5 27 24,47		——	93 27 24,05		27 24,37		— 0,32	11,080
433		5 29 2,46		5 29 2,59	5	29 3,08	50 29 2,70	29 0,65	28 59,54	+2,05	+ 3,16	11,028
434		——		5 6 55,56		——	115 6 55,56		6 51,98		+ 3,58	11,027
435		——		4 0 42,95	1	0 42,60	68 0 42,88		0 42,00		+ 0,88	11,002
436		——		——	5	19 7,75	67 19 7,75		19 7,75		0,00	10,990
437		5 14 4,04		5 14 4,88		——	125 14 4,46		13 59,48		+ 4,98	10,976
438		5 42 2,65		5 41 59,35		——	54 42 1,00		41 58,44		+ 2,56	10,920
439		——		——	1	45 40,02	164 45 40,02		45 11,90		+ 28,12	10,772
440		7 59 28,25		5 59 28,25	5	59 28,98	103 59 28,49	59 30,53	59 28,38	—2,04	+ 0,11	10,762
441		5 17 9,35		5 17 9,99		——	72 17 9,97		17 8,89		+ 1,08	10,693
442		——		5 16 44,03		——	70 16 44,03		16 40,30		+ 3,73	10,680
443		5 59 21,69		6 59 23,29	6	59 22,52	77 59 22,54	59 25,63	59 19,81	—3,09	+ 2,73	10,676
444		4 29 51,08		5 29 53,40		——	114 29 52,37		29 47,30		+ 5,07	10,571
445		5 1 36,04		5 1 35,88		——	92 1 35,96		1 35,21		+ 0,75	10,552
446		5 28 57,68		5 29 0,99		——	84 28 59,33		28 54,85		+ 4,48	10,463
447		——		4 21 46,34		——	66 21 46,34		21 46,73		— 0,39	10,457
448		5 22 58,15		8 22 59,07	3	22 59,64	68 22 58,89	23 2,68	23 4,04	—3,79	+ 5,15	10,424
449		5 27 0,20		2 27 2,13		——	68 27 0,75		27 1,46		— ,071	10,376
450		5 52 34,78		5 52 35,37		——	151 52 35,07		52 18,39		+ 16,68	10,318

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s		s		s	h. m. s.	s.	s.	s.	s.	s.
451	6	41 Tauri		——		——	5	18,99	3 56 19,01		18,96		+0,05	+3,655
452	5	48 Persei *c*	4	29,80	2	29,99		——	3 56 29,88		29,18		+0,70	4,308
453	5.6	42 Tauri ψ		——		——	5	38,16	3 56 38,18		37,92		+0,26	3,692
454	6	Tauri		——	5	22,75	1	22,83	3 58 22,78		22,46		+0,32	3,418
455	5	Reticuli *γ*	5	29,41	3	29,49		——	3 58 29,43		27,32		+2,11	0,841
456	6	Eridani A		——	4	42,36	2	41,97	3 58 42,22		41,59		+0,63	2,452
457	6	43 Tauri ω^1		——		——	5	23,55	3 59 23,57		23,29		+0,28	3,469
458	6.7	Tauri		——		——	6	39,39	3 59 39,41		38,83		+0,58	3,334
459	6.7	44 Tauri P		——		——	6	37,02	4 0 37,04		36,49		+0,55	3,634
460	5.6	37 Eridani		——	6	11,20		——	4 2 11,19		10,89		+0,30	2,918
461	6	45 Tauri		——	5	24,22		——	4 2 24,23		23,82		+0,41	3,171
462	4.5	51 Persei *μ*	5	35,48	5	35,49	5	35,15	4 2 35,41	35,45	35,34	—0,04	+0,07	4,360
463	7	Tauri		——	4	54,27	2	54,52	4 2 54,36		54,11		+0,25	3,528
464	4.5	38 Eridani *o*	6	40,16	6	40,18	6	40,32	4 3 40,22	40,19	39,60	+0,03	+0,62	2,919
465	6	46 Tauri		——		——	5	30,86	3 4 30,86		30,36		+0,50	3,217
466	5.6	47 Tauri		——	1	48,60	4	48,81	4 4 48,77		48,42		+0,35	3,250
467	5	Persei *b*	4	38,47	4	38,54		——	4 5 38,49		38,02		+0,47	4,459
468	6	48 Tauri	1	14,63	5	14,52		——	4 6 14,55		14,14		+0,41	3,382
469	5	49 Tauri *μ*	1	25,03	5	25,09		——	4 6 25,09		24,88		+0,21	3,243
470	5	39 Eridani A		——	5	24,45		——	4 6 24,45		24,27		+0,18	2,846
471	5.6	50 Tauri ω^2		——	5	25,62		——	4 7 25,63		25,23		+0,40	3,500
472	5	40 Eridani *d*		——	6	32,51		——	4 7 32,51		32,18		+0,33	2,757*
473	7	51 Tauri		——	2	27,40	3	27,48	4 8 27,47		26,98		+0,49	3,525
474	5	Horologii *α*	5	26,32	3	26,66		——	4 8 26,52		25,98		+0,54	1,978
475	6.7	53 Tauri		——	5	32,54		——	4 9 32,56		32,03		+0,53	3,516
476	6.7	56 Tauri		——		——	5	40,75	4 9 40,77		40,29		+0,48	3,531
477	6	52 Tauri Φ		——		——	5	2,08	4 10 2,10	2,08	2,12	+0,02	—0,02	3,670
478	3.4	54 Tauri *γ*	6	14,61	11	14,50		——	4 10 14,55	14,42	14,23	+0,13	+0,32	3,390
479	6	57 Tauri h^1		——		——	5	30,69	4 10 30,71		30,60		+0,11	3,355
480	6	58 Tauri h^2		——	2	5,31	3	5,28	4 11 5,31		4,42		+0,89	3,379
481	6.7	Tauri		——		——	5	26,27	4 11 26,29		26,14		+0,15	3,352
482	3.4	41 Eridani X	5	32,38	6	32,55		——	4 11 32,47	32,42	31,63	+0,05	+0,84	2,259
483	4	Doradus *γ*	2	38,17	2	38,14		——	4 11 38,14		37,10		+1,04	1,550
484	6	59 Tauri *χ*		——		——	5	22,15	4 12 22,17	22,05	21,81	+0,12	+0,36	3,629
485	3.4	Reticuli *α*		——	5	17,04		——	4 12 16,96		16,50		+0,46	0,741
486	7	Tauri		——		——	5	30,53	4 12 30,55		30,10		+0,45	3,511
487	7	60 Tauri h^3		——		——	3	36,00	4 12 36,03		35,37		+0,66	3,358
488	4	61 Tauri δ^1	5	15,30	5	15,28	6	15,51	4 13 15,38	15,31	14,88	+0,07	+0,50	3,436
489	5	Reticuli *ε*		——	4	35,94		——	4 13 35,90		35,83		+0,07	1,023
490	6	63 Tauri		——	4	47,24	1	47,15	4 13 47,22		46,95		+0,27	3,419
491	7	62 Tauri		——		——	3	52,62	4 13 52,64		52,71		—0,07	3,598
492	4.5	64 Tauri δ^2		——	3	25,21		——	4 14 25,23	25,15	25,11	+0,08	+0,12	3,435
493	6	Eridani o^2		——		——	3	33,17	4 14 33,13		32,97		+0,16	2,481
494	5.6	66 Tauri *r*		——		——	3	42,82	4 14 42,85		41,71		+1,14	3,259
495	6	42 Eridani *ξ*		——		——	5	19,35	4 15 19,35		18,86		+0,49	2,981

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
451	5	51 33,26	4	51 34,15		——	62 51 33,66		51 34,49		— 0,83	—10,308
452	5	44 39,34	5	44 37,56		——	42 44 38,45		44 43,60		— 5,15	10,297
453		——	5	27 36,04		——	61 27 36,04		27 30,89		+ 5,15	10,285
454		——	1	6 56,47	4	6 55,29	73 6 55,53		6 56,16		— 0,63	10,153
455	5	37 46,32	5	37 44,07		——	152 37 45,20		37 43,82		+ 1,38	10,140
456		——		——	5	6 57,00	118 6 57,00		7 2,85		— 5,85	10,126
457		——		——	5	50 31,44	70 50 31,44		50 21,34		+ 10,10	10,076
458	3	3 10,56	1	3 11,53		——	77 3 10,80		3 9,69		+ 1,11	10,056
459	5	57 50,87		——		——	63 57 50,87		57 55,58		— 4,71	9,984
460	5	22 7,81	6	22 6,74		——	97 22 7,24		22 6,27		+ 0,97	9,863
461		——	5	55 19,34		——	84 55 19,34		55 14,22		+ 5,12	9,847
462	5	1 36,44	5	1 35,84	5	1 36,19	42 1 36,16	1 34,82	1 38,39	+1,34	— 2,23	9,836
463	1	2 27,21	4	2 29,23		——	68 2 28,83		1 30,55		— 1,72	9,810
464	5	16 54,00	5	16 52,35		——	97 16 53,17	16 54,52	16 52,82	—1,35	+ 0,35	9,750
465		——		——	5	43 9,56	82 43 9,56		43 8,29		+ 1,27	9,686
466		——	5	10 8,17		——	81 10 8,17		10 5,03		+ 3,14	9,663
467	5	7 40,57	5	7 41,94		——	40 7 41,25		7 36,12		+ 5,13	9,603
468		——	5	1 38,54		——	75 1 38,54		1 26,93		+ 11,61	9,554
469	4	32 5,77	4	32 5,22		——	81 32 5,50		32 4,14		+ 1,36	9,540
470	5	40 46,58	5	40 46,97		——	100 40 46,77		40 42,05		+ 4,72	9,540
471	5	50 33,53	5	50 34,37		——	69 50 33,95		50 27,22		+ 6,73	9,463
472	5	55 7,48	5	55 8,34		——	97 55 7,91		55 6,70		+ 1,21	5,852*
473	5	50 16,05		——		——	68 50 16,05		50 16,58		— 0,53	9,384
474	5	42 41,21	5	42 44,10		——	132 42 42,65		42 38,14		+ 4,51	9,381
475	1	16 14,17	4	16 15,69		——	69 16 15,39		16 15,40		— 0,01	9,300
476		——	3	38 18,35	3	38 18,57	68 38 18,46		——		——	9,289
477		——		——	5	3 28,41	63 3 28,41	3 30,92	3 30,53	—2,51	— 2,12	9,261
478	5	47 7,80	11	47 8,57	3	47 9,15	74 47 8,54	47 4,78	47 4,92	+3,76	+ 3,62	9,245
479		——		——	5	22 36,55	76 22 36,55		22 27,82		+ 8,73	9,224
480		——	7	18 53,33		——	75 18 53,33		18 45,85		+ 7,48	9,180
481	3	32 36,71	2	32 39,62		——	76 32 37,87		32 34,43		+ 3,44	9,152
482	5	12 46,93	5	12 47,03		——	124 12 46,98	12 47,90	12 46,64	—0,92	+ 0,34	9,142
483	5	54 49,95	5	54 49,31		——	141 54 49,63		55 9,83		— 20,20	9,133
484		——	4	46 31,29	1	46 30,96	64 46 31,22	46 27,95	46 26,68	+3,27	+ 4,54	9,080
485	4	53 42,89	5	53 42,76		——	152 53 42,82		53 28,30		+ 14,52	9,080
486		——		——	5	35 3,55	69 35 3,55		34 58,32		+ 5,23	9,069
487		——		——	5	19 35,63	76 19 35,63		19 31,27		+ 4,36	9,062
488	5	51 28,24	5	51 28,07		——	72 51 28,15	51 30,36	51 24,03	—2,21	+ 4,12	9,011
489	5	42 30,66	5	42 31,93		——	149 42 31,30		42 30,11		+ 1,19	8,977
490	1	37 16,99		——	6	37 16,35	73 37 16,44		37 12,61		+ 3,83	8,969
491		——		——	5	5 50,57	66 5 50,57		5 50,42		+ 0,15	8,962
492	5	57 4,21	5	57 6,25		——	72 57 5,23	57 7,96	57 3,70	—2,73	+ 1,53	8,919
493		——		——	5	7 43,66	116 7 43,66		7 40,52		+ 3,14	8,906
494		——	1	56 15,58	4	56 13,40	80 56 13,84		56 10,95		+ 2,89	8,897
495		——		——	5	8 23,83	94 8 23,83		8 21,31		+ 2,52	8,848

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
496	5.6	65 Tauri κ^1		——	1	21,78		——	4 15 21,80	21,99	21,51	—0,19	+0,29	+3,550
497	6.7	Tauri		——		——	5	25,38	4 15 25,41		25,10		+0,31	3,790
498	6.7	67 Tauri κ^2		——	4	25,21	5	25,18	4 15 25,21	25,22	25,01	—0,01	+0,20	3,548
499	5	68 Tauri δ^3	7	46,92		——	5	46,69	4 15 46,84	46,78	46,09	+0,06	+0,75	3,447
500	5	Reticuli θ		——	4	48,78		——	4 15 48,72		46,89		+1,83	0,643
501	7	70 Tauri		——		——	5	2,61	4 16 2,63		2,02		+0,61	3,402
502	5	69 Tauri υ^1		——	5	15,88		——	4 16 15,89	15,66	15,27		+0,62	3,564
503	5.6	71 Tauri		——		——	4	47,04	4 16 47,04		46,02		+1,02	3,395
504	5	73 Tauri π	6	7,35	6	7,53	1	7,15	4 17 7,40		7,19		+0,21	3,375
505	6	72 Tauri υ^2		——		——	5	15,29	4 17 15,32		14,93		+0,39	3,569
506	4.5	43 Eridani		——	3	43,82		——	4 17 43,80		43,54		+0,26	2,242
507	4	74 Tauri ε	3	48,93	12	49,02	6	48,80	4 18 48,93	48,93	48,63	0,00	+0,30	3,479
508	6	75 Tauri		——	5	50,65		——	4 18 50,65		50,69		—0,04	3,414
509	7	76 Tauri		——	1	52,94	4	52,93	4 18 52,95		52,08		+0,87	3,377
510	5	77 Tauri θ^1	6	59,14		——		——	4 18 59,14	59,13	58,68	+0,01	+0,46	3,405
511	5.6	78 Tauri θ^2	2	4,76		——	6	4,67	4 19 4,71	4,76	4,67	—0,05	+0,04	3,403
512	6	79 Tauri b		——		——	4	25,98	4 19 25,99		25,59		+0,40	3,340
513	5.6	44 Eridani k^1		——		——	5	51,47	4 19 51,47		51,09		+0,38	3,089
514	5	Reticuli η		——	4	5,94		——	4 20 5,88		5,48		+0,40	0,608
515	6	80 Tauri		——		——	11	34,38	4 20 34,40		34,01		+0,39	3,399
516	5.6	Tauri		——		——	3	57,23	4 20 57,25		56,89		+0,36	3,412
517	5.6	81 Tauri		——		——	2	4,49	4 21 4,51		4,18		+0,33	3,400
518	6	83 Tauri		——	6	10,49		——	4 21 10,49		10,01		+0,48	3,356
519	7	84 Tauri		——		——	5	35,68	4 21 35,70		35,27		+0,43	3,387
520	6	85 Tauri		——	3	16,64	2	16,50	4 22 16,59		16,03		+0,56	3,405
521	6	45 Eridani k^2		——	4	17,28	1	17,35	4 23 17,29		16,92		+0,37	3,059
522	7	Tauri		——		——	6	8,00	4 24 8,03		7,50		+0,53	3,734
523	5	86 Tauri ρ	6	19,64	6	19,31		——	4 24 19,48		19,05		+0,43	3,383
524	6	46 Eridani		——		——	6	43,88	4 25 43,88		43,47		+0,41	2,915
525	5	Cœli Scalp δ	6	41,39	6	41,78		——	4 25 41,57		41,33		+0,24	1,830
526	6	Eridani		——		——	5	4,04	4 26 4,04		3,73		+0,31	2,913
527	5	47 Eridani	6	6,37	6	6,51		——	4 26 6,54		6,24		+0,30	2,883
528	1	87 Tauri α	12	17,35	23	17,28	49	17,32	4 26 17,31	17,36	16,94	—0,05	+0,37	3,423
529	5	88 Tauri d	4	25,76		——		——	4 26 25,76		25,47		+0,29	3,280
530	4	48 Eridani ν^2	2	56,00	7	55,80		——	4 27 55,85	55,71	55,49	+0,14	+0,36	2,988
531	7	89 Tauri		——		——	5	33,07	4 28 33,09		32,70		+0,39	3,414
532	6	49 Eridani k^3		——		——	4	34,60	4 28 34,60		34,21		+0,39	3,082
533	5	90 Tauri c^1	2	46,58	3	46,63		——	4 28 46,62		46,35		+0,27	3,333
534	3	52 Eridani υ^2		——	6	1,48		——	4 29 1,46	1,47	1,42	—0,01	+0,04	2,330
535	5.6	51 Eridani c		——		——	4	9,13	4 29 9,13		8,86		+0,27	3,007
536	5.6	91 Tauri σ^1		——		——	4	34,13	4 29 34,15		33,98		+0,17	3,409
537	5.6	92 Tauri σ^2		——		——	6	40,36	4 29 40,38		40,54		—0,16	3,412
538	3	Doradus α		——	3	22,78	3	22,92	4 30 22,78		22,04		+0,74	1,278
539	4	53 Eridani		——	6	29,43		——	4 30 29,42	29,53	29,16	—0,11	+0,26	2,745
540	5	93 Tauri c^2	6	42,62	6	42,71		——	4 30 42,67		42,31		+0,36	3,327

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
496		——		——	5	5 51,08	68 5 51,08	5 51,78	5 51,28	—0,70	— 0,20	— 8,846
497		——		——		56 53,10	58 56 53,10		56 49,12		+ 3,98	8,842
498	1	11 23,85		——	5	11 26,84	68 11 26,34	11 28,98	11 27,55	—2.64	— 1,21	8,841
499	4	27 46,92	5	27 46,25	1	27 46,42	72 27 46,54	27 48,44	27 46,14	—1,90	+ 0,40	8,813
500	5	39 46,96	5	39 45,89	1	——	153 39 46,93		39 47,53		— 0,60	8,805
501		——	5	27 1,94		——	74 27 1,94		26 54,75		+ 7,19	8,792
502	5	34 25,64	4	34 24,17		——	67 34 24,88		34 28,34		— 3,46	8,775
503		——		——	5	46 15,33	74 46 15,33		46 10,02		+ 5,31	8,735
504	5	40 25,26	5	40 24,95		——	75 40 25,10		40 20,37		+ 4,73	8,707
505		——		——	5	23 21,67	67 23 21,67		23 22,29		— 0,62	8,697
506	5	24 42,84	5	24 42,46		——	124 24 42,65	24 40,45	24 42,16	+2,20	+ 0,49	8,656
507	5	11 56,71	8	11 57,79		——	71 11 57,37	11 57,42	11 55,70	—0,05	+ 1,67	8,574
508		——	6	1 21,56		——	74 1 21,56		1 21,90		— 0,34	8,571
509		——		——	5	38 25,83	75 38 25,83		38 24,49		+ 1,34	8,569
510	5	25 4,00	5	25 5,09		——	74 25 4,54	25 4,08	24 58,57	+0,46	+ 5,97	8,560
511		——	2	30 33,40	5	30 35,12	74 30 34,63	30 32,08	30 24,21	+2,55	+ 10,42	8,552
512	5	19 53,62		——		——	77 19 53,62		19 53,53		+ 0,09	8,525
513		——		——	5	59 51,36	88 59 51,36		59 47,39		+ 3,97	8,490
514	5	47 6,22	5	47 5,98		——	153 47 6,10		47 9,25		— 3,15	8,465
515		——		——		——	74 ——		44 5,31		——	8,434
516	2	10 42,17	3	10 41,89		——	74 10 42,00		10 38,91		+ 3,09	8,404
517		——	3	40 51,48		——	74 40 51,48		40 46,03		+ 5,45	8,394
518		——		——	5	38 51,72	76 38 51,72		38 49,12		+ 2,60	8,387
519		——		——	5	15 55,74	75 15 55,74		15 48,88		+ 6,86	8,353
520	5	31 0,98	4	31 0,13		——	74 31 0,60		30 52,41		+ 8,19	8,299
521		——		——	5	24 42,94	90 24 42,94		24 39,30		+ 3,64	8,218
522		——		——	5	23 52,69	61 23 52,69		23 49,69		+ 3,00	8,152
523	5	30 58,80	5	30 58,87		——	75 30 58,83		30 49,59		+ 9,24	8,136
524	5	5 51,25	5	5 51,88		——	97 5 51,56		5 50,42		+ 1,14	8,022
525	5	19 7,80	4	19 7,07		——	135 19 7,48		19 10,19		— 2,71	8,022
526		——		——	3	11 36,92	97 11 36,92		11 31,84		+ 5,08	7,995
527	5	35 15,67	5	35 18,14		——	98 35 16,90		35 18,47		— 1,57	7,991
528	44	50 5,41	37	50 6,39	65	50 6,34	73 50 6,08	50 7,77	50 3,73	—1,69	+ 2,35	7,979
529	5	11 25,17	5	11 28,38		——	80 11 26,78		11 28,06		— 1,28	7,967
530		——	5	42 4,43		——	93 42 4,43	42 8,59	42 6,61	—4,16	— 2,18	7,845
531		——		——	5	18 38,64	74 18 38,64		18 35,19		+ 3,45	7,797
532	5	20 54,10		——		——	89 20 54,10		20 48,32		+ 5,78	7,794
533	5	49 58,74	5	49 59,20		——	77 49 58,97		49 58,79		+ 0,18	7,778
534	7	54 41,04	5	54 44,69		——	120 54 42,56	54 43,40	54 41,38	—0,84	+ 1,18	7,755
535		——		——	4	48 54,84	92 48 54,84		48 52,83		+ 2,01	7,747
536		——		——	5	32 20,14	74 32 20,14		32 16,15		+ 3,99	7,714
537		——		——	5	25 20,99	74 25 20,99		25 17,83		+ 3,16	7,705
538	5	23 46,59	5	23 45,42		——	145 23 46,01		23 33,75		+ 12,26	7,644
539	5	38 18,18	4	38 17,17		——	104 38 17,73	38 16,66	38 12,21	+1,07	+ 5,52	7,638
540	5	8 15,55	5	8 16,13		——	78 8 15,84		8 20,74		— 4,90	7,622

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s		s		s	h. m. s.	s.	s.	s.	s.	s.
541	6.7	Tauri		——	4	49,45	2	49,70	4 30 49,55		49,14		+0,41	+3,733
542	6	Eridani		——		——	5	36,45	4 31 36,43		36,11		+0,32	2,743
543	5	Tauri τ	1	10,49	6	10,28		——	4 32 10,33	10,40	10,08	—0,07	+0,25	3,584
544	7	95 Tauri		——		——	4	4,11	4 33 4,14		3,51		+0,63	3,614
545	4	54 Eridani	6	5,82	6	5,86	6	5,86	4 33 5,84	5,86	5,60	—0,02	+0,24	2,616
546	6	Eridani P		——		——	5	7,97	4 33 7,94		7,76		+0,18	2,494
547	6	Tauri		——	5	7,64		——	4 35 7,65		7,05		+0,60	3,306
548	4.5	Cœli Scalp α	6	9,09	6	9,26		——	4 35 9,15		9,54		—0,39	1,939
549	5	Cœli Scalp β	5	7,37	4	7,46		——	4 36 7,40		7,09		+0,31	2,111
550	6	Tauri		——	6	28,74		——	4 36 28,76		28,31		+0,45	3,484
551	5	57 Eridani μ	4	6,65	6	6,42		——	4 37 6,51		6,05		+0,46	2,990
552	4.5	Camelopardi		——	3	24,49	6	24,29	4 37 24,47	24,17	24,02	+0,30	+0,45	5,881
553	6	Eridani		——	5	43,52		——	4 39 43,50		43,32		+0,18	2,390
554	6	58 Eridani		——		——	6	3,99	4 40 3,96		3,57		+0,39	2,678
555	6	96 Tauri K		——	5	7,86		——	4 40 7,85		7,26		+0,59	3,419
556	4	1 Orionis q	6	43,56	6	43,54	8	43,63	4 40 43,58	43,66	43,79	—0,08	—0,21	3,251*
557	6	59 Eridani		——		——	5	59,35	4 40 59,33		59,51		—0,18	2,692
558	5	2 Orionis π^1	6	27,75	6	27,82	3	27,82	4 41 27,80	27,73	27,59	+0,07	+0,21	3,258
559	5.6	97 Tauri i		——	2	33,21	5	33,21	4 41 33,23		32,69		+0,54	3,490
560	4	3 Orionis r	5	15,68	6	15,96		——	4 42 15,83	15,97	16,12	—0,14	—0,29	3,185
561	7	Aurigæ		——		——	5	18,02	4 42 18,05		17,42		+0,63	3,727
562	6	60 Eridani		——		——	8	37,81	4 42 37,79		36,89		+0,90	2,694
563	5	4 Orionis o^1	5	2,34	6	2,16		——	4 43 2,24		1,62		+0,62	3,382
564	5	7 Camelop. b		——	5	50,51		——	4 43 50,55		50,60		—0,05	4,773
565	6	5 Orionis		——	1	37,17	2	37,65	4 44 37,49		37,01		+0,48	3,117
566	5	61 Eridani ω		——	6	38,77		——	4 44 38,77		38,50		+0,27	2,941
567	6	6 Orionis g		——		——	5	28,36	4 45 28,38		27,49		+0,89	3,317
568	4.5	8 Orionis z	1	30,31	4	30,33	3	30,44	4 45 30,37	30,39	29,54	—0,02	+0,83	3,116
569	5.6	7 Orionis π^2		——		——	5	39,22	4 45 39,23		38,51		+0,72	3,288
570	4	3 Aurigæ i	4	3,81	5	3,89	5	3,85	4 46 3,86	3,88	0,61	—0,02	+3,25	3,887
571	5	9 Orionis o^2	6	56,05	6	56,02		——	4 46 56,04		55,46		+0,58	3,367
572	6.7	Tauri		——		——	5	37,61	4 47 37,63		37,34		+0,29	3,625
573	6.7	Tauri I		——		——	5	40,50	4 47 40,51		40,66		—0,15	3,453
574	5	4 Aurigæ w	6	51,73	6	51,93		——	4 47 51,84		51,63		+0,21	4,047
575	6	98 Tauri k		——		——	5	53,00	4 47 53,02		52,12		+0,90	3,654
576	6	62 Eridani b		——		——	5	8,13	4 48 8,13		7,73		+0,40	2,947
577	4.5	10 Camelop. d^1	2	30,34	1	30,11	3	30,36	4 48 30,37	30,45	30,49	—0,08	—0,12	5,286
578	7	Tauri		——	5	27,66		——	4 49 27,67		27,85		—0,18	3,392
579	5.6	10 Orionis s		——		——	5	50,85	4 49 50,85		50,63		+0,22	3,100
580	4	7 Aurigæ ε	4	55,67	5	55,70	4	55,68	4 49 55,72	55,76	55,32	—0,04	+0,40	4,280
581	7	101 Tauri		——	1	6,20	4	6,14	4 50 6,16		5,96		+0,20	3,425
582	4	8 Aurigæ ζ		——	6	44,97	3	44,89	4 50 44,98	45,04	44,84	—0,06	+0,14	4,170
583	5	63 Eridani	1	53,79	6	53,68		——	4 51 53,70		53,75		—0,05	2,831
584	6	64 Eridani		——		——	5	7,81	4 52 7,80		6,94		+0,86	2,778
585	4.5	102 Tauri i	6	3,77	7	3,76	7	3,76	4 53 3,78	3,76	3,30	+0,02	+0,48	3,568

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.			Green-wich Cata-logue.		A. S. Cata-logue.			Difference from				Annual Precession
	No.	1831		No.	1832		No.	1833							Green.		A. S. C.		
		′	″		′	″		′	″	°	′	″	′	″	″		″		″
541		—			—		5	43	6,16	61	43	6,16			43	4,58		+	1,58	— 7,614
542	4	41	29,02		—			—		104	41	29,02			41	22,14		+	6,88	7,548
543	5	22	20,10	4	22	20,23	5	22	20,85	67	22	20,43	22	21,26	22	20,13	—0,83	+	0,30	7,504
544		—		5	14	13,17		—		66	14	13,17			14	10,52		+	2,65	7,432
545	4	0	2,09	4	0	4,27		—		110	0	3,18	59	58,97	59	54,49	+4,21	+	8,69	7,426
546	5	49	2,36	1	49	1,56		—		114	49	2,23			48	55,62		+	6,61	7,423
547	1	10	24,40	5	10	25,76		—		79	10	25,53			10	25,53			0,00	7,264
548	5	11	19,58	5	11	21,27	3	11	18,59	132	11	20,00			11	16,60		+	3,40	7,257
549	5	28	34,61	5	28	35,70		—		127	28	35,16			28	43,47		—	8,31	7,179
550		—		5	34	35,54		—		71	34	35,54			34	31,24		+	4,30	7,154
551	5	34	4,04	5	34	5,10		—		93	34	4,57			34	4,46		+	0,11	7,101
552	5	57	18,09	5	57	18,67		—		23	57	18,38	57	22,09	57	20,69	—3,71	—	2,31	7,084
553	5	23	45,18	5	23	44,65		—		118	23	44,91			23	44,71		+	0,20	6,884
554		—		5	14	51,81		—		107	14	51,81			14	48,70		+	3,11	6,857
555		—		2	23	48,45	2	23	48,33	74	23	48,39			23	45,54		+	2,85	6,854
556	5	20	17,62	5	20	20,08	6	20	19,37	83	20	19,04	20	20,81	20	21,38	—1,77	—	2,34	6,804
557		—			—		5	37	58,12	106	37	58,12			37	57,36		+	0,76	6,781
558	5	23	42,48	4	23	41,75	5	23	42,85	81	23	42,41	23	42,53	23	41,40	—0,12	+	1,01	6,744
559		—			—		5	27	11,79	71	27	11,79			27	8,09		+	3,70	6,737
560	5	41	23,60	3	41	25,52	5	41	23,73	84	41	24,10	41	20,43	41	17,57	+3,67	+	6,53	6,677
561		—			—		5	23	29,36	62	23	29,36			23	27,33		+	2,03	6,677
562		—		1	30	51,18	4	30	53,97	106	30	53,41			30	51,43		+	1,98	6,647
563	5	2	11,92	5	2	11,04		—		76	2	11,48			2	10,44		+	1,04	6,615
564	5	31	39,06	5	31	37,44		—		36	31	38,25			31	40,22		—	1,97	6,551
565		—		4	46	32,82	1	46	32,63	87	46	32,72			46	24,90		+	7,82	6,483
566	4	44	27,39	5	44	24,84		—		95	44	26,11			44	19,82		+	6,29	6,480
567	1	51	17,31	1	51	16,33	4	51	17,93	78	51	17,56			51	19,18		—	1,62	6,414
568	5	50	26,39	3	50	27,06		—		87	50	26,64	50	29,32	50	25,07	—2,68	+	1,57	6,410
569		—			—		5	7	29,05	80	7	29,05			7	26,39		+	2,66	6,398
570	5	6	29,91	5	6	32,14		—		57	6	31,02			6	26,77		+	4,25	6,369
571	5	45	28,65	5	45	30,92		—		76	45	29,78			45	25,33		+	4,45	6,292
572		—			—		6	19	16,52	66	19	16,52			19	16,41		+	0,11	6,235
573		—			—		5	7	0,82	73	7	0,82			7	1,07		—	0,25	6,230
574	5	22	20,35	5	22	21,07		—		52	22	20,71			22	18,70		+	2,01	6,216
575		—			—		5	13	3,26	65	13	3,26			13	1,20		+	2,06	6,215
576		—		5	26	40,73		—		95	26	40,73			26	34,47		+	6,26	6,191
577	5	48	57,25	5	48	58,62		—		29	48	57,93	48	56,36	48	54,17	+1,57	+	3,76	6,166
578	1	43	15,32		—			—		75	43	15,32			43	14,88		+	0,44	6,081
579		—			—		5	33	0,33	88	33	0,33			33	0,82		—	0,49	6,049
580	5	26	4,82	6	26	3,83	5	26	3,89	46	26	4,16	26	5,50	26	4,35	—1,34	—	0,19	6,045
581		—		1	20	37,91	4	20	39,22	74	20	38,96			20	32,36		+	6,60	6,028
582	5	10	43,38	6	10	42,64	6	10	42,90	49	10	42,95	10	44,13	10	43,45	—1,18	—	0,50	5,976
583	5	30	55,27	4	30	56,69		—		100	30	55,90			30	54,36		+	1,54	5,877
584		—		2	17	21,26	3	47	26,19	102	47	25,42			47	24,03		+	1,39	5,858
585	5	39	24,25	5	39	23,97	4	39	23,58	68	39	23,96	39	27,48	39	25,94	—3,52	—	1,98	5,782

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
586	5	65 Eridani ψ	3	17,81	6	17,76		——	4 53 17,78		17,61		+0,17	+2,901
587	7	Tauri		——	4	21,29	2	21,35	4 54 21,32		21,10		+0,22	3,561
588	4	10 Aurigæ η	5	44,71	5	44,84	5	44,72	4 54 44,79	44,75	44,47	+0,04	+0,32	4,182
589	5	11 Orionis y^1	3	58,44	3	58,42		——	4 54 58,43		58,16		+0,27	3,416
590	5.6	Leporis		——		——	5	20,13	4 55 20,10		19,76		+0,34	2,428
591	6	1 Leporis		——		——	5	39,94	4 55 39,92		39,56		+0,36	2,522
592	5	104 Tauri m	1	31,95	7	31,80		——	4 57 31,82	31,66	31,77	+0,16	+0,05	3,542*
593	5.6	106 Tauri l^1		——	5	52,24	1	52,12	4 57 52,24		51,86		+0,38	3,541
594	6	Tauri		——		——	5	52,73	4 57 52,76		52,66		+0,10	3,642
595	6	105 Tauri		——		——	5	53,13	4 57 53,15	53,01	53,47	+0,14	—0,32	3,574
596	7	Tauri		——		——	5	2,60	4 58 2,63		2,22		+0,41	3,754
597	4	2 Leporis ε	5	21,14	6	21,16		——	4 58 21,15	21,27	20,40	—0,12	+0,75	2,532
598	5	Cœli Scalp γ^1	1	22,20	6	22,12		——	4 58 22,11		21,72		+0,39	2,142
599	6	66 Eridani		——		——	5	27,57	4 58 27,57		27,43		+0,14	2,958
600	6	Leporis		——		——	5	27,35	4 58 27,32		26,81		+0,51	2,429
601	6	14 Orionis i		——		——	4	44,37	4 58 44,38		44,41		—0,03	3,255
602	7	107 Tauri l^2		——		——	2	56,07	4 58 56,09		55,81		+0,28	3,528
603	3	67 Eridani β	6	35,69	6	35,73	1	35,88	4 59 35,72	36,01	35,58	—0,29	+0,14	2,948
604	5	15 Orionis y^2	2	5,49	6	5,45		——	5 0 5,47		5,22		+0,25	3,423
605	6	16 Orionis h		——	3	5,24	2	5,56	5 0 5,38		5,17		+0,21	3,286
606	6	68 Eridani		——		——	5	24,42	5 0 24,42		24,12		+0,30	2,962
607	4	69 Eridani λ	1	6,32	5	6,64		——	5 1 6,58	6,66	6,41	—0,08	+0,17	2,864
608	5	11 Aurigæ μ		——	5	56,39		——	5 1 56,41		56,34		+0,07	4,088
609	6.7	Orionis y^3		——		——	4	3,18	5 2 3,20		2,58		+0,62	3,435
610	5	Doradus ζ	1	38,24	6	38,52		——	5 2 38,45		39,71		—1,26	1,021
611	1	13 Aurigæ α	17	17,46	19	17,45	33	17,16	5 4 17,36	17,43	17,11	—0,07	+0,25	4,402
612	5	14 Aurigæ a		——	3	28,09		——	5 4 28,11		28,78		—0,67	3,894
613	4.5	3 Leporis i		——	6	27,83		——	5 4 27,82	27,81	27,50	+0,01	+0,32	2,791
614	5	17 Orionis ρ^1	4	30,79	1	30,72		——	5 4 30,78		30,46		+0,32	3,128
615	7	108 Tauri		——	6	22,14		——	5 5 22,15		21,53		+0,62	3,595
616	5	5 Leporis μ	6	23,26	4	23,28		——	5 5 23,27		22,94		+0,33	2,686
617	4	Orionis		——		——	6	29,10	5 5 29,09	28,94	28,57	+0,15	+0,52	2,878
618	5	4 Leporis κ		——		——	6	28,50	5 5 28,49		28,36		+0,13	2,765
619	1	19 Orionis β	10	28,07	7	28,09	11	28,08	5 6 28,08	28,05	27,88	+0,03	+0,20	2,876
620	6	18 Orionis		——		——	5	44,45	5 6 44,47		44,17		+0,30	3,324
621	5	15 Aurigæ λ		——	4	19,90		——	5 7 19,92		19,16		+0,76	4,157
622	6	Columbæ		——		——	5	40,42	5 8 40,39		40,10		+0,29	2,400
623	5.6	109 Tauri n		——		——	4	11,24	5 9 11,27		10,48		+0,79	3,592
624	7	Tauri		——		——	6	18,77	5 9 18,79		18,70		+0,09	3,541
625	4	20 Orionis τ	7	27,10	6	27,21		——	5 9 27,15	27,12	27,21	+0,03	—0,06	2,907
626	6	Leporis		——		——	5	57,52	5 9 57,50		——		——	2,750
627	7	Tauri		——	6	24,31		——	5 10 24,32		23,87		+0,45	3,527
628	6	21 Orionis		——	6	25,60		——	5 10 25,60		25,61		—0,01	3,123
629	6.7	Aurigæ		——	2	31,90	4	31,84	5 10 31,88		31,76		+0,12	3,803
630	5	Columbæ o	6	25,68	5	25,75		——	5 11 25,70		25,32		+0,38	2,151

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
586	5	25 34,23	5	25 36,10		——	97 25 35,17		25 33,52		+ 1,65	— 5,760
587		——	5	57 53,10		——	68 57 53,10		57 55,21		— 2,11	5,673
588	3	0 6,78	5	0 5,95	5	0 6,22	49 0 6,24	0 7,83	0 7,54	—1,59	— 1,30	5,642
589	5	50 17,18	5	50 18,43		——	74 50 17,80		50 11,48		+ 6,32	5,621
590	3	31 5,05	4	31 4,66		——	116 31 4,83		31 2,65		+ 2,18	5,588
591		——	4	2 25,33	1	2 24,62	113 2 25,19		2 31,02		— 5,83	5,560
592	5	35 16,40	5	35 17,06	7	35 15,66	71 35 16,29	35 16,93	35 13,95	—0,64	+ 2,34	5,406
593		——	5	48 41,10		——	69 48 41,10		48 38,05		+ 3,05	5,377
594		——	4	57 50,91	1	57 51,77	65 57 51,08		57 53,14		— 2,06	5,377
595		——		——	5	31 26,22	68 31 26,22	31 31,38	31 28,50	—5,16	— 2,28	5,375
596		——		——	5	57 18,99	61 57 18,99		57 21,08		— 2,09	5,364
597	5	36 5,93	5	36 5,32		——	112 36 5,62	36 10,05	36 2,33	—4,43	+ 3,29	5,335
598	5	43 4,96	5	43 8,31		——	125 43 6,63		43 1,23		+ 5,40	5,331
599		——		——	5	53 16,59	94 53 16,59		53 10,01		+ 6,58	5,326
600		——		——	5	23 4,09	116 23 4,09		23 0,64		+ 3,45	5,325
601		——		——	5	43 39,58	81 43 39,58		43 36,41		+ 3,17	5,303
602		——		——	5	22 0,51	70 22 0,51		21 56,02		+ 4,49	5,288
603	5	18 38,69	5	18 40,08		——	95 18 39,39	18 36,52	18 33,96	+2,87	+ 5,43	5,230
604	5	37 31,37	6	37 31,30		——	74 37 31,33		37 22,61		+ 8,72	5,190
605		——	1	23 43,56	4	23 45,75	80 23 45,31		23 33,91		+ 11,40	5,189
606	3	40 54,30		——	2	40 56,49	94 40 55,17		40 48,04		+ 7,13	5,162
607	5	58 32,39	5	58 31,63		——	98 58 31,96	58 32,10	58 31,85	—0,14	+ 0,11	5,102
608	5	43 26,15	5	43 24,95		——	51 43 25,55		43 29,97		— 4,42	5,035
609		——	2	10 9,86	4	10 12,22	74 10 11,47		10 7,83		+ 3,64	5,024
610	2	42 13,59	5	42 15,70		——	147 42 14,81		41 33,18		+ 41,63	4,965
611	40	10 57,39	25	10 57,57	47	10 57,80	44 10 57,61	10 56,14	10 58,03	+1,47	— 0,42	4,837
612		——		——		——	57 ——		30 54,16		——	4,819
613	4	4 38,27	5	4 40,30		——	102 4 39,24	4 38,93	4 33,58	+0,31	+ 5,66	4,818
614		——	5	20 44,52		——	87 20 44,52		20 41,09		+ 3,43	4,815
615		——		——	5	54 52,25	67 54 52,25		51 54,34		— 2,09	4,744
616	5	24 35,74	1	24 37,07		——	106 24 35,96		24 34,50		+ 1,46	4,739
617	5	21 5,47		——		——	98 21 5,47	21 7,68	——	—2,21	——	4,732
618		——	5	8 44,12		——	103 8 44,12		8 45,51		— 1,42	4,732
619	29	24 5,06	14	24 4,51	23	24 5,43	98 24 5,07	24 7,78	24 5,40	—2,71	— 0,33	4,647
620		——	5	51 17,14		——	78 51 17,14		51 13,91		+ 3,23	4,626
621	5	3 39,48	5	3 39,48		——	50 3 39,48		3 32,20		+ 7,28	4,578
622		——		——	5	8 13,99	117 8 13,99		8 10,78		+ 3,21	4,459
623		——		——	5	5 4,75	68 5 4,75		5 2,75		+ 2,00	4,419
624		——		——	5	3 1,77	70 3 1,77		2 56,71		+ 5,06	4,407
625	5	1 55,65	4	1 56,38		——	97 1 55,97	1 57,62	1 56,11	—1,65	— 0,14	4,393
626	2	42 13,70		——	3	42 14,56	103 42 14,22		42 15,79		— 1,57	4,352
627		——		——	5	36 8,66	70 36 8,66		36 6,18		+ 2,48	4,314
628		——		——	5	35 5,36	87 35 5,36		35 3,22		+ 2,14	4,310
629		——		——	5	36 35,09	60 36 35,09		36 30,85		+ 4,24	4,304
630	5	3 55,89	5	3 58,53		——	125 3 57,21		3 36,48		+ 20,73	4,223

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in 1831		Mean A. R. January 1, 1832, from Observations in 1832		Mean A. R. January 1, 1832, from Observations in 1833		Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from Green.	Difference from A. S.	Annual Precession
				No.	s	No.	s	No.	s	h. m. s.	s.	s.	s.	s.	s.
631	4.5	6 Leporis	λ	5	50,16	5	50,32		——	5 11 50,23	50,34	49,90	—0,11	+0,33	+2,758
632	5·6	7 Leporis	ν	1	11,75	6	11,57		——	5 12 11,61		11,27		+0,34	2,778
633	6	Columbæ			——		——	5	42,35	5 12 42,32		41,53		+0,79	2,386
634	7	22 Aurigæ			——		——	5	44,68	5 12 44,71		44,49		+0,22	3,786
635	5.6	22 Orionis	o		——		——		——	5 13 ——		10,74		——	3,055
636	7	Aurigæ			——		——	5	49,09	5 13 49,12		48,92		+0,20	3,856
637	7	Aurigæ			——		——	4	49,32	5 13 49,35		49,28		+0,07	3,854
638	7	110 Tauri			——		——	6	55,83	5 13 55,85		55,47		+0,38	3,457
639	5	23 Orionis	m	5	0,33	6	0,54		——	5 14 0,44		0,37		+0,07	3,145
640	6	111 Tauri			——		——	6	37,55	5 14 37,57		36,78		+0,79	3,474
641	6	Eridani			——	4	52,70	2	53,18	5 14 52,94		52,51		+0,43	2,459
642	2	112 Tauri	β	12	40,69	15	40,61		——	5 15 40,66	40,70	40,53	—0,04	+0,13	3,779
643	6	8 Leporis	ξ		——		——	3	49,12	5 15 49,10		49,00		+0,10	2,739
644	5.6	29 Orionis	e		——		——	4	51,64	5 15 51,63		51,31		+0,32	2,884
645	5.6	27 Orionis	p		——		——	5	56,69	5 15 56,69		56,55		+0,14	3,044
646	5.6	25 Orionis	Ψ^1		——		——	5	1,93	5 16 1,93		1,27		+0,66	3,107
647	4.5	28 Orionis	η	6	2,00	6	2,03		——	5 16 2,01	2,03	1,86	—0,02	+0,15	3,009
648	2	24 Orionis	γ	1	7,36	8	7,49		——	5 16 7,48	7,40	7,42	+0,08	+0,06	3,210
649	6	113 Tauri			——		——	5	23,58	5 16 23,60		23,02		+0,58	3,458
650	5	24 Aurigæ	Φ	1	31,08	5	31,09		——	5 16 31,10		31,72		—0,62	3,964
651	5.6	115 Tauri			——	1	22,53	3	22,46	5 17 22,49		22,15		+0,34	3,490
652	5	114 Tauri	o	3	33,15	6	32,95		——	5 17 33,02	32,96	32,78	+0,06	+0,24	3,593
653	5	30 Orionis	Ψ^2	6	2,37	6	2,42		——	5 18 2,40	2,34	2,08	+0,06	+0,32	3,136
654	6	116 Tauri			——		——	5	6,65	5 18 6,66		6,35		+0,31	3,138
655	6	117 Tauri			——		——	5	16,87	5 18 16,88		16,49		+0,39	3,472
656	7	Tauri			——		——	5	28,41	5 18 28,42		28,32		+0,10	3,452
657	7	118 Tauri			——		——	6	56,14	5 18 56,16		56,27		—0,11	3,681
658	6	Leporis			——	3	15,32	2	15,62	5 19 15,42		14,07		+1,35	2,787
659	4	9 Leporis	β	6	2,96	6	2,94	5	3,03	5 21 2,97	3,00	2,96	—0,03	+0,01	2,565
660	5	31 Orionis	t	4	12,26	6	12,28		——	5 21 12,27		11,43		+0,84	3,040
661	5	25 Aurigæ	χ	6	47,99	6	47,94		——	5 21 47,96		39,75		——	3,893
662	5	32 Orionis	A		——	4	47,90		——	5 21 47,90		47,51		+0,39	3,202
663	5.6	119 Tauri			——	3	22,03	2	22,08	5 22 22,07		21,65		+0,42	3,508
664	6	33 Orionis	n		——		——	5	25,95	5 22 25,95		25,53		+0,42	3,141
665	2	34 Orionis	δ	6	25,54	16	25,63	1	25,72	5 23 25,63	25,69	25,55	—0,06	+0,08	3,058
666	6.7	Tauri			——		——	6	39,81	5 23 39,83		39,90		—0,07	3,557
667	6	120 Tauri			——		——	5	41,33	5 23 41,35		40,75		+0,60	3,507
668	5	36 Orionis	υ	1	48,49	4	48,54		——	5 23 48,53		48,85		—0,32	2,896
669	6	10 Leporis	o		——		——	5	56,68	5 23 56,66		56,12		+0,54	2,562
670	7	35 Orionis	u		——		——	5	21,69	5 24 21,71		21,02		+0,69	3,402
671	6	121 Tauri			——		——	4	11,82	5 25 11,84		11,48		+0,36	3,654
672	4	Columbæ	ε	1	14,94	5	15,03		——	5 25 15,01	15,00	14,80	+0,01	+0,21	2,122
673	3.4	11 Leporis	α	1	19,19	5	19,41		——	5 25 19,36	19,45	19,21	—0,09	+0,15	2,640
674	6.7	Aurigæ			——		——	5	23,26	5 25 23,28		23,15		+0,13	3,757
675	6	38 Orionis			——		——	5	26,61	5 25 26,61		26,17		+0,44	3,152

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
631		5 21 21,79		5 21 20,79		——	103 21 21,29	21 23,18	21 21,05	—1,89	+ 0,24	— 4,189
632		1 29 33,95		6 29 37,24		——	102 29 36,77		29 37,02		— 0,25	4,159
633		——		1 32 45,87		5 32 46,13	117 32 46,09		32 46,79		— 0,70	4,115
634		——		——		5 13 55,04	61 13 55,04		13 53,71		+ 1,33	4,114
635		——		——		5 33 19,66	90 33 19,66		33 10,05		+ 9,61	4,075
636		——		——		5 56 27,95	58 56 27,95		56 27,09		+ 0,86	4,023
637		——		——		5 1 17,95	59 1 17,95		1 19,21		— 1,26	4,022
638		——		——		5 27 58,29	73 27 58,29		27 59,87		— 1,58	4,012
639		5 37 27,38		5 37 27,09		——	86 37 27,23		37 26,69		+ 0,54	4,004
640		——		——		5 46 46,80	72 46 46,80		46 48,75		— 1,95	3,953
641		——		——		5 56 34,07	114 56 34,07		56 26,43		+ 7,64	3,928
642		32 32 32,59		23 32 33,83		14 32 33,74	61 32 33,22	32 33,29	32 34,31	—0,07	— 1,09	3,863
643		——		——		4 5 27,05	104 5 27,05		5 25,57		+ 1,48	3,848
644		——		——		5 58 5,50	97 58 5,50		58 5,69		— 0,19	3,845
645		——		——		5 3 34,02	91 3 34,02		3 31,01		+ 3,01	3,838
646		——		——		3 18 50,62	88 18 50,62		18 50,40		+ 0,22	3,831
647		5 33 28,48		5 33 28,81		——	92 33 28,65	33 30,84	33 29,95	—2,19	— 1,30	3,830
648		6 48 29,80		5 48 31,36		5 48 32,59	83 48 31,16	48 34,21	48 35,25	—3,05	— 4,09	3,823
649		——		——		1 27 23,83	73 27 23,83		27 24,82		— 0,99	3,801
650		5 40 36,68		5 40 37,12		——	55 40 36,90		40 37,79		— 0,89	3,790
651		——		——		5 11 24,06	72 11 24,06		11 24,90		— 0,84	3,717
652		5 12 50,08		5 12 49,13		——	68 12 49,60	12 51,38	12 47,88	—1,78	+ 1,72	3,702
653		5 3 23,44		3 3 24,58		——	87 3 23,90	3 25,40	3 22,39	—1,50	+ 1,51	3,658
654		——		1 16 31,89		4 16 32,45	74 16 32,34		16 26,24		+ 6,10	3,653
655		——		——		5 54 28,21	72 54 28,21		54 26,51		+ 1,70	3,639
656		——		——		5 42 23,86	73 42 23,86		——		——	3,622
657		——		——		5 59 41,76	64 59 41,76		59 39,12		+ 2,64	3,582
658		2 2 55,28		2 2 54,79		——	102 2 55,03		2 52,46		+ 2,57	3,554
659		5 53 58,45		5 53 57,48		——	110 53 57,96	53 56,80	53 54,03	+1,16	+ 3,93	3,397
660		5 13 53,43		5 13 53,98		——	91 13 53,71		13 50,93		+ 2,78	3,387
661		5 56 24,55		5 56 24,37		——	57 56 24,46		56 28,97		— 4,51	3,337
662		5 11 13,67		5 11 14,43		——	84 11 14,05		11 9,87		+ 4,18	3,335
663		1 32 15,50		3 32 17,42		7 32 17,41	71 32 17,22		32 17,41		— 0,19	3,287
664		——		——		6 50 33,19	86 50 33,19		50 35,88		— 2,69	3,280
665		5 25 52,80		11 25 51,95		——	90 25 52,17	25 50,10	25 49,95	+2,07	+ 2,22	3,194
666		——		——		5 39 13,32	69 39 13,32		39 9,31		+ 4,01	3,175
667		——		——		——	71 35 ——		35 10,19		——	3,173
668		2 25 53,45		2 25 52,06		——	97 25 52,75		25 55,52		— 2,77	3,160
669		1 59 37,99		4 59 38,15		——	110 59 38,12		59 52,38		— 14,26	3,148
670		——		——		6 49 13,05	75 49 13,05		49 8,83		+ 4,22	3,115
671		——		——		5 4 48,26	66 4 48,26		4 50,21		— 1,95	3,043
672		5 35 56,03		——		——	125 35 56,03		35 50,54		+ 5,49	3,034
673		6 56 51,61		5 56 53,11		——	107 56 52,29	56 54,00	56 54,19	—1,71	— 1,90	3,029
674		——		——		5 27 17,86	62 27 17,86		27 15,42		+ 2,44	3,026
675		——		——		5 21 17,96	86 21 17,96		21 16,26		+ 1,70	3,020

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
676	4.5	37 Orionis Φ^1	2	36,19	4	36,09		——	5 25 36,12	36,04	35,67	+0,08	+0,45	+3,286
677	4	39 Orionis λ		——	6	53,33		——	5 25 53,33	53,41	53,00	—0,08	+0,33	3,297
678	7	Tauri		——	1	39,66	5	39,51	5 26 39,56		39,19		+0,37	3,736
679	6	41 Orionis θ^1		——		——		——	5 27 ——		1,52		——	2,941
680	5	42 Orionis c^1	5	6,10	6	6,09		——	5 27 6,09		5,53		+0,56	2,953
681	6	43 Orionis θ^2		——		——	12	8,08	5 27 8,08		7,72		+0,36	2,940
682	3.4	44 Orionis ι	2	13,00	3	13,11		——	5 27 13,07	13,15	13,48	—0,08	—0,41	2,928
683	6	122 Tauri		——		——	4	19,16	5 27 19,18		18,66		+0,52	3,471
684	3.4	123 Tauri ζ	6	36,56	6	36,53		——	5 27 36,55	36,51	35,81	+0,04	+0,74	3,577
685	5	40 Orionis Φ^2		——	6	40,80		——	5 27 40,80		40,28		+0,52	3,282
686	2.3	46 Orionis ε	2	41,50	10	41,50		——	5 27 41,50	41,50	41,35	0,00	+0,15	3,038
687	5	26 Aurigæ l		——		——	6	50,15	5 27 50,17		50,85		—0,68	3,844
688	6	125 Tauri		——		——	5	19,69	5 29 19,71	19,73	19,03	—0,02	+0,68	3,708
689	6	Columbæ		——		——	3	36,28	5 29 36,25		36,07		+0,18	2,339
690	4	48 Orionis σ	11	18,86	6	18,92		——	5 30 18,88	18,95	18,57	—0,07	+0,31	3,005
691	6	47 Orionis ω		——		——	6	19,24	5 30 19,24		24,20		——	3,161
692	6	Columbæ ν^1		——		——	5	38,71	5 30 38,68		38,06		+0,62	2,364
693	5	49 Orionis d	1	45,19	6	45,55		——	5 30 45,50		45,68		—0,18	2,898
694	6	Orionis		——		——	5	9,16	5 31 9,16		8,85		+0,31	2,983
695	6	Columbæ ν^2		——	6	11,39		——	5 31 11,38		11,25		+0,13	2,339
696	5.6	126 Tauri		——	6	35,32		——	5 31 35,33		34,66		+0,67	3,459
697	4	Doradus β		——	6	10,70		——	5 32 10,64		10,18		+0,46	0,509
698	3	50 Orionis ζ	6	16,92	17	17,09	2	17,12	5 32 17,02	17,09	17,12	—0,07	—0,10	3,021
699	2	Columbæ α	7	34,14	6	34,11	12	34,26	5 33 34,15	34,17	33,81	—0,02	+0,34	2,167
700	6	51 Orionis b		——	4	47,56	2	47,52	5 33 47,55		47,35		+0,20	3,100
701	7	Tauri		——		——	6	26,06	5 34 26,08		26,11		—0,03	3,401
702	6	12 Leporis	1	10,20	5	9,99		——	5 35 10,02		9,08		+0,94	2,519
703	6	128 Tauri M		——	6	12,65		——	5 35 12,66		11,75		+0,91	3,449
704	6	129 Tauri		——	1	5,92	5	6,00	5 37 6,01		5,52		+0,49	3,443
705	4	13 Leporis γ	15	27,72	6	27,76		——	5 37 27,73	27,79	27,32	—0,06	+0,41	2,517
706	6	130 Tauri N		——		——	5	38,74	5 37 38,76		38,49		+0,27	3,491
707	6	131 Tauri O		——		——	6	39,12	5 37 39,14		39,30		—0,16	3,410
708	6	133 Tauri		——		——	5	11,40	5 38 11,42		11,20		+0,22	3,396
709	5	132 Tauri B	5	42,55	6	42,56	1	42,47	5 38 42,56	42,70	41,87	—0,14	+0,69	3,674
710	6	52 Orionis		——		——	4	58,89	5 38 58,89		58,50		+0,39	3,217
711	4.5	14 Leporis ζ	5	20,69	6	20,82	2	20,67	5 39 20,75	20,84	20,24	—0,09	+0,51	2,714
712	5	Columbæ μ		——	4	45,64		——	5 39 45,62		45,24		+0,38	2,224
713	3	53 Orionis κ	2	47,38	6	47,44		——	5 39 47,43	47,40	47,20	+0,03	+0,23	2,840
714	5	32 Aurigæ ν		——	6	50,91		——	5 39 50,93		50,63		+0,30	4,149
715	5	31 Camelopar.		——	6	55,50		——	5 39 55,54		54,77		+0,77	5,358
716	5.6	134 Tauri P		——		——	5	6,86	5 40 6,88		6,14		+0,74	3,365
717	7	Tauri		——		——	5	23,10	5 40 23,13		22,87		+0,26	3,773
718	5	30 Aurigæ ξ	1	46,25	5	46,34		——	5 40 46,36		46,28		+0,08	5,017
719	6	135 Tauri		——	4	55,68	2	55,69	5 40 55,69		54,84		+0,85	3,406
720	7	Tauri		——		——	5	14,84	5 41 14,86		15,09		—0,23	3,410

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
676		5 37 56,66		5 37 55,84		——	80 37 56,25		37 53,08		+ 3,17	— 3,007
677		5 11 12,99		5 11 12,20	5	11 12,44	80 11 12,54	11 8,42	11 4,05	+4,12	+ 8,49	2,982
678		——		——	5	11 18,16	63 11 18,16		11 19,34		— 1,18	2,917
679		1 30 25,04		——	4	30 27,03	95 30 26,63		30 22,32		+ 4,31	2,882
680		5 57 24,45		5 57 26,26		——	94 57 25,35		57 16,49		+ 8,86	2,877
681		——		2 32 1,85		——	95 32 1,85		31 55,59		+ 6,26	2,873
682		4 1 34,26		4 1 35,12		——	96 1 34,69	1 36,98	1 29,85	—2,29	+ 4,84	2,865
683		——		——	5	4 14,63	73 4 14,63		4 16,55		— 1,92	2,859
684		6 58 0,92		4 58 0,62	6	58 2,27	68 58 1,36	58 3,69	58 1,84	—2,33	— 0,48	2,835
685		3 48 27,31		5 48 30,42		——	80 48 29,25		48 27,68		+ 1,57	2,827
686		10 18 57,47		9 18 57,76		——	91 18 57,61	18 58,10	18 57,02	— 0,49	+ 0,59	2,825
687		5 37 0,86		——		——	59 37 0,86		36 49,72		+ 11,14	2,814
688		1 12 18,16		——	4	12 20,33	64 12 19,90	12 19,34	12 16,00	+ 0,56	+ 3,90	2,686
689		——		——	5	49 2,88	118 49 2,88		49 5,84		— 2,96	2,657
690		5 42 11,14		5 42 13,62		——	92 42 12,39	42 13,76	42 9,10	—1,37	+ 3,29	2,598
691		——		6 58 53,96		——	85 58 53,96		58 50,04		+ 3,92	2,590
692		——		5 58 25,75		——	117 58 25,75		58 25,29		+ 0,46	2,568
693		5 18 47,11		4 18 46,12		——	97 18 46,67		18 44,27		+ 2,40	2,558
694		——		——	5	39 52,08	93 39 52,08		39 53,05		— 0,97	2,525
695		——		——	5	47 42,96	118 47 42,96		47 46,54		— 3,58	2,520
696		——		——	6	33 37,09	73 33 37,09		33 35,29		+ 1,80	2,489
697		4 36 1,70		5 36 1,62		——	152 36 1,64		36 0,50		+ 1,14	2,429
698		4 2 15,61		16 2 18,36		——	92 2 17,81	2 17,94	2 16,64	—0,13	+ 1,17	2,427
699		40 10 5,11		——	3	10 5,12	124 10 5,12	10 7,40	10 5,56	—2,28	— 0,44	2,313
700		——		5 36 47,78		——	88 36 47,78		36 46,82		+ 0,96	2,296
701		——		——	4	54 35,48	75 54 35,48		——		——	2,241
702		——		1 27 39,42		——	112 27 39,42		27 38,09		+ 1,33	2,176
703		——		5 59 35,54		——	73 59 35,54		59 34,25		+ 1,29	2,175
704		——		5 15 2,06		——	74 15 2,06		14 57,31		+ 4,75	2,010
705		5 30 29,28		5 30 29,05	3	30 28,51	112 30 29,01	30 31,05	30 30,59	—2,04	— 1,58	1,976
706		——		7 20 29,10		——	72 20 29,10		20 25,66		+ 3 44	1,962
707		——		——	6	34 55,42	75 34 55,42		34 52,86		+ 2,56	1,961
708		——		——	4	10 9,32	76 10 9,32		10 3,26		+ 6,06	1,915
709		4 29 50,04		4 29 49,68	6	29 50,08	65 29 49,95	29 50,75	29 46,92	—0,80	+ 3,03	1,871
710		——		——	6	36 41,92	83 36 41,92		36 42,66		— 0,74	1,845
711		5 53 29,35		5 53 30,94		——	104 53 30,14	53 27,10	53 23,45	+3,04	+ 6,69	1,812
712		5 22 30,39		5 22 29,86		——	122 22 30,12		22 29,25		+ 0,87	1,775
713		5 44 11,24		4 44 11,59		——	99 44 11,40	44 8,61	44 4,28	+2,79	+ 7,12	1,774
714		5 54 37,51		2 54 36,75		——	50 51 37,29		54 37,90		— 0,61	1,772
715		5 9 47,31		——		——	30 9 47,31		9 42,39		+ 4,92	1,770
716		——		3 24 31,61	2	24 32,79	77 24 32,14		24 27,00		+ 5,14	1,748
717		——		——	5	5 29,57	62 5 29,57		5 28,14		+ 1,43	1,725
718		4 20 40,59		——		——	34 20 40,59		20 35,61		+ 4,98	1,694
719		——		——	6	45 5,43	75 45 5,43		44 55,31		+ 10,12	1,677
720		——		——	5	36 48,91	75 36 48,91		36 44,13		+ 4,78	1,648

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
721	7	Tauri		——		——	4	19,06	5 41 19,08		17,66		+1,42	+3,400
722	4.5	136 Tauri C	13	46,29	5	46,29		——	5 42 46,29	46,31	46,01	—0,02	+0,28	3,763
723	6	137 Tauri D		——		——	5	49,98	5 42 50,00		49,69		+0,31	3,403
724	6	Leporis		——		——	5	52,90	5 42 52,87		52,36		+0,51	2,502
725	6	55 Orionis		——		——	5	15,54	5 43 15,53		15,22		+0,31	2,891
726	5.6	56 Orionis		——		——	5	43,37	5 43 43,37		43,04		+0,33	3,110
727	6·7	Aurigæ		——		——	7	4,73	5 44 4,76		4,87		—0,11	3,890
728	5	15 Leporis δ	4	5,89	5	5,92		——	5 44 5,90		5,67		+0,23	2,559
729	5	54 Orionis χ^1	5	26,34	6	26,08		——	5 44 26,20	26,27	25,82	—0,07	+0,38	3,559
730	5	Doradus δ		——	6	29,22		——	5 44 29,15		28,16		+0,99	0,102
731	6	57 Orionis χ^2		——		——	4	0,11	5 44 0,13	0,03	0,30	+0,10	—0,17	3,546
732	3	Columbæ β	3	2,60	6	2,49		——	5 45 2,51	2,32	2,33	+0,19	+0,18	2,105
733	3,4	33 Aurigæ δ		——	4	41,92		——	5 45 41,96	41,82	41,24	+0,14	+0,72	4,921
734	1	58 Orionis α	7	4,67	19	4,71	54	4,75	5 46 4,74	4,79	4,66	—0,05	+0,08	3,241
735	2	34 Aurigæ β	5	12,36	1	12,44		——	5 47 12,38	12,40	12,25	—0,02	+0,13	4,398
736	5	35 Aurigæ π		——	6	28,21		——	5 47 28,23		27,92		+0,31	4,445
737	5.6	139 Tauri		——		——	5	34,35	5 47 34,38		34,12		+0,26	3,717
738	4	37 Aurigæ θ	14	15,95	6	16,05		——	5 48 15,99	15,92	15,63	+0,07	+0,36	4,081
739	4	16 Leporis η	6	45,56	6	45,38		——	5 48 45,47	45,50	45,06	—0,03	+0,41	2,730
740	6	59 Orionis		——	6	40,98		——	5 49 40,98		40,54		+0,44	3,110
741	5	Doradus ε		——	5	4,35		——	5 50 4,28		2,74		+1,54	—0,069
742	6	60 Orionis B		——	6	11,50		——	5 50 11,50		11,01		+0,49	+3,080
743	7	Aurigæ		——		——	5	27,12	5 50 27,15		26,90		+0,25	3,765
744	5.6	2 Monocer A^2		——		——	6	5,90	5 51 5,89		5,58		+0,31	2,843
745	6	141 Tauri Q^2		——		——	8	33,00	5 51 33,03		32,63		+0,40	3,618
746	4	Columbæ γ	9	34,86	6	34,99	6	35,05	5 51 34,94	34,86	34,80	+0,08	+0,14	2,122
747	5	61 Orionis μ	6	8,55	6	8,49	6	8,65	5 53 8,57	8,59	7,85	—0,02	+0,72	3,295
748	5.6	64 Orionis χ^4		——	6	30,74		——	5 53 30,76		30,94		—0,18	3,546
749	5	1 Geminor. H	6	54,69	6	54,74		——	5 53 54,73	54,63	54,32	+0,10	+0,41	3,042
750	5	62 Orionis χ^3	3	56,55	6	56,65		——	5 53 56,63		56,67		—0,04	3,558
751	5.6	3 Monocerotis		——	6	56,36		——	5 53 56,35		55,92		+0,43	2,818
752	6	66 Orionis C		——	6	5,89		——	5 56 5,89		5,53		+0,36	3,165
753	5.6	Leporis		——		——	6	29,77	5 56 29,74		29,19		+0,55	2,408
754	6.7	2 Geminorum		——		——	6	34,17	5 56 34,20		33,98		+0,22	3,653
755	7	Orionis		——		——	5	3,17	5 57 3,19		2,87		+0,32	3,440
756	5.6	17 Leporis ρ		——	5	29,54	2	29,59	5 57 29,55		29,12		+0,43	2,673
757	4.5	67 Orionis ν	19	58,92	4	58,93	8	58,87	5 57 58,91	58,85	58,45	+0,06	+0,46	3,421
758	4.5	18 Leporis θ	1	33,10	7	33,28	6	33,28	5 58 33,26	33,24	33,28	+0,02	—0,02	2,712
759	6.7	Tauri		——	4	24,73	2	24,71	5 59 24,74		24,73		+0,01	3,614
760	6	3 Geminorum		——	8	31,89		——	5 59 31,90		31,54		+0,36	3,639
761	5	Camelopardi		——	6	19,13		——	6 0 19,21		19,01		+0,20	6,616
762	7	4 Geminorum		——	3	18,50		——	6 0 18,51		17,94		+0,57	3,636
763	6	19 Leporis τ		——		——	6	23,26	6 0 23,24		22,77		+0,47	2,604
764	5	40 Camelopardi	1	34,37	5	34,76		——	6 0 34,76		34,43		+0,33	5,385
765	6	4 Monocer D^2		——		——	2	33,35	6 0 33,34		——		——	2,805

No.	Mean N. P D. reduced to January 1, 1832, from Observations in			Mean N. P D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
	′ ″	′ ″	′ ″	° ′ ″	′ ″	′ ″	″	″	″
721	——	5 11 1,42	——	70 11 1,42		——		——	— 1,644
722	5 26 7,12	4 26 7,85	7 26 7,69	62 26 7,56	26 8,60	——	—1,04	——	1,517
723	——	6 52 43,78	——	75 52 43,78		52 42,39		+ 1,39	1,510
724	——	——	4 1 39,36	113 1 39,36		1 43,84		— 4,48	1,504
725	——	——	5 33 27,69	97 33 27,69		34 9,99		——	1,472
726	——	——	5 11 33,57	88 11 33,57		11 33,51		+ 0,06	1,432
727	——	——	5 19 55,91	58 19 55,91		19 52,58		+ 3,33	1,402*
728	5 53 56,66	5 53 56,26	——	110 53 56,46		53 56,09		+ 0,37	0,777
729	5 45 48,04	6 45 48,79	5 45 48,43	69 45 48,43	45 45,67	45 45,24	+2,76	+ 3,19	1,371
730	6 47 55,78	——	——	155 47 55,78		47 54,13		+ 1,65	1,357
731	——	5 17 29,80	——	70 17 29,80	17 26,90	17 22,49	+2,90	+ 7,31	1,321
732	5 50 12,17	4 50 10,63	——	125 50 11,49		50 20,58		— 9,09	1,314
733	5 44 24,71	——	——	35 44 24,71	44 21,46	44 23,42	+3,25	+ 1,29	1,265
734	45 37 52,16	24 37 52 54	49 37 52,79	82 37 52,50	37 53,70	37 53,42	—1,20	— 0,92	1,226
735	6 4 50,55	5 4 51,02	——	45 4 50,77	4 45,67	4 46,38	+5,10	+ 4,39	1,131
736	5 5 16,61	——	——	44 5 16,61		5 17,61		— 1,00	1,109
737	——	——	——	64 ——		4 31,13		——	1,097
738	5 48 27,83	5 48 27,73	2 48 27,60	52 48 27,75	48 29,38	48 26,94	—1.63	+ 0,81	1,038
739	5 12 13,50	5 12 15,01	——	104 12 14,26	12 17,10	12 10,23	—2,84	+ 4,03	0,991
740	——	——	5 11 13,88	88 11 13,88		11 9,25		+ 4,63	0,912
741	5 56 35,25	4 56 32,70	——	156 56 34,12		56 52,04		— 17,92	0,870
742	——	5 28 12,33	——	89 28 12,33		28 9,52		+ 2,81	0,867
743	——	4 26 38,72	1 26 39,71	62 26 38,92		26 40,66		— 1,74	0,846
744	——	——	5 34 36,44	99 34 36,44		34 30,94		+ 5,50	0,787
745	——	——	5 36 41,12	67 36 41,12		36 38,49		+ 2,63	0,750
746	5 18 24,55	5 18 27,30	——	125 18 25,92		18 21,86		+ 4,06	0,742
747	5 21 40,54	5 21 40,27	5 21 40,02	80 21 40,28	21 35,33	21 37,32	+4,95	+ 2,96	0,610
748	——	5 18 54,90	——	70 18 54,90		18 48,24		+ 6,66	0,577
749	5 44 7,60	6 44 7,59	5 44 7,61	66 44 7,60	44 8,77	44 6,63	—1,17	+ 0,97	0,543
750	5 52 0,45	4 51 57,74	——	69 51 59,25		51 56,05		+ 3,20	0,540
751	4 36 24,61	——	——	100 36 24,61		36 23,32		+ 1,29	0,539
752	——	6 50 20,40	——	85 50 20,40		50 19,86		+ 0,54	0,351
753	——	4 17 21,52	——	116 17 21,52		17 21,36		+ 0,16	0,314
754	——	4 21 15,28	——	66 21 15,28		21 6,84		+ 8,44	0,311
755	——	5 27 44,41	——	74 27 44,41		26 40,66		+ 3,75	0,268
756	——	——	5 28 44,63	106 28 44,63		28 48,06		— 3,43	0,228
757	11 13 12,25	5 13 13,56	11 13 12,87	75 13 12,75	13 7,21	13 2,83	+5,54	+ 9.92	0,187
758	7 55 37,34	4 55 39,42	——	104 55 38,10	55 35,48	55 39,58	+2,62	— 1,48	0,134
759	——	5 47 24,68	——	67 47 24,68		47 27,85		— 3,17	0,062
760	——	5 52 1,35	——	66 52 1,35		52 1,73		— 0,38	0,052
761	5 38 12,01	5 38 12,08	——	20 38 12,04		38 6,44		+ 5,60	+ 0,009
762	——	——	5 58 46,12	66 58 46,12		58 45,15		+ 0,97	0,016
763	——	——	5 9 7,12	109 9 7,12		9 6,13		+ 0,99	0,026
764	4 58 7,02	5 58 5,58	——	29 58 6,22		58 1,07		+ 5,15	0,034
765	——	——	4 7 38,77	101 7 38,77		7 38,35		+ 0,42	0,038

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
766	7	5 Geminorum		——		——	6	13,96	6 1 13,98		13,90		+0,08	+3,676
767	5	Columbæ θ.	5	46,24	6	46,15		——	6 1 46,18		45,68		+0,50	2,053
768	6	68 Orionis E^1		——		——	4	4,42	6 2 4,44		3,78		+0,66	3,550
769	6.7	6 Geminorum		——		——	5	7,76	6 2 7,78		7,24		+0,54	3,634
770	5	1 Lyncis α	4	24,85	2	25,04		——	6 2 24,94		24,69		+0,25	5,535
771	6	69 Orionis f^1		——		——	5	22,12	6 2 22,14		21,51		+0,63	3,455
772	5	70 Orionis ξ	8	23,28	6	23,27		——	6 2 23,28		23,13		+0,15	3,407
773	6	Canis Maj.		——	6	53,74		——	6 3 53,72		53,25		+0,47	2,384
774	4	44 Aurigæ κ	5	40,46	1	40,28		——	6 4 40,43	40,34	39,66	+0,09	+0,77	3,825
775	4.5	7 Geminor. η	2	44,18	5	44,16	7	44,20	6 4 44,20	44,24	43,82	—0,04	+0,38	3,623
776	4.5	2 Lyncis b		——	4	47,81	2	47,50	6 4 47,78	47,51	47,31	+0,27	+0,47	5,297
777	5.6	71 Orionis E^2	1	57,76	5	57,72		——	6 4 57,74		58,02		−0,28	3,533
778	6	72 Orionis f^2		——	5	44,03		——	6 5 44,04		43,56		+0,48	3,456
779	7	8 Geminor.		——		——	5	2,96	6 6 2,99		2,72		+0,27	3,663
780	6	73 Orionis k^1		——		——	6	18,79	6 6 18,81		18,44		+0,37	3,367
781	4.5	5 Monocer α	18	39,74	6	39,80	14	39,80	6 6 39,77	39,79	39,49	—0,02	+0,28	2,922
782	7	9 Geminorum		——	5	43,77		——	6 6 43,78		43,26		+0,52	3,657
783	5.6	74 Orionis k^2		——		——	5	0,65	6 7 0,67		0,62		+0,05	3,360
784	7	Aurigæ		——	4	49,05	2	48,91	6 7 49,01		48,90		+0,11	3,756
785	6	75 Orionis l		——		——	5	51,51	6 7 51,51		51,25		+0,26	3,303
786	7	11 Geminorum		——	5	5,69	3	5,61	6 9 5,67		5,14		+0,53	3,649
787	4.5	Columbæ ν	16	34,56	6	34,61		——	6 10 34,57	34,74	34,56	—0,17	+0,01	2,130
788	6	7 Monocerotis		——	5	37,32		——	6 11 37,32		37,60		−0,28	2,886
789	5	46 Aurigæ d	3	57,31	5	57,27		——	6 11 57,30		57,00		+0,30	4,623
790	3	13 Geminor μ	8	47,66	7	47,82	7	47,71	6 12 47,75	47,83	47,44	—0,08	+0,31	3,623
791	3	1 Canis Maj. ζ	6	51,94	6	51,95	6	51,96	6 13 51,94	52,01	51,95	—0,07	−0,01	2,298
792	7	Geminorum		——	6	22,78		——	6 14 22,79		22,60		+0,19	3,694
793	6	Monocerotis		——	6	27,27		——	6 14 27,27		27,09		+0,18	3,158
794	5.6	8 Monocer b		——	6	52,00		——	6 14 52,00		51,82		+0,18	3,177
795	7	Geminorum		——	5	19,30		——	6 15 19,31		18,82		+0,49	3,648
796	7	Geminorum		——		——	6	20,08	6 15 20,11		19,87		+0,24	3,645
797	2.3	2 Canis Maj. β	7	18,10	6	18,15	20	18,25	6 15 18,19	18,21	17,94	—0,02	+0,25	2,638
798	4	3 Canis Maj λ	2	58,63	6	58,52		——	6 15 58,54	58,47	58,29	+0,07	+0,25	2,191
799	6	15 Geminorum		——		——	5	45,75	6 17 45,77		45,37		+0,40	3,576
800	6	48 Aurigæ ε		——		——	4	46,16	6 17 46,19		45,96		+0,23	3,856
801	6	16 Geminorum		——		——	5	57,20	6 17 57,22		56,81		+0,41	3,569
802	6	77 Orionis D^1		——		——	5	36,23	6 18 36,23		36,33		−0,10	3,077
803	6	78 Orionis D^2		——		——	6	40,61	6 18 40,61		40,40		+0,21	3,064
804	5	18 Geminorum ν	18	59,26	7	59,24	7	59,08	6 18 59,21	59,17	58,76	+0,04	+0,45	3,561
805	7	17 Geminorum		——	5	45,69		——	6 17 45,70		9,12			3,588
806	6	10 Monocerotis		——	6	39,98		——	6 19 39,98		39,84		+0,14	2.959
807	1	Argus α	12	13,22		——	12	13,42	6 20 13,28		13,23		+0,05	1,327
808	7	Geminorum		——	2	29,29	5	29,32	6 21 29,34		29,04		+0,30	3,918
809	6.7	19 Geminorum		——		——	7	57,75	6 21 57,77		57,36		+0,41	3,450
810	5	Canis Maj. D^1	5	56,98	6	56,70		——	6 21 56,82		56,67		+0,15	2,221

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No. 1831	No. 1832	No. 1833				Green.	A. S. C	
	′ ″	′ ″	′ ″	° ′ ″	′ ″	′ ″	″	″	″
766	——	——	5 33 5,06	65 33 5,06		33 2,17		+ 2,89	+0,097
767	4 14 1,76	5 14 3,08	——	127 14 2,49		14 2,90		— 0,41	0,148
768	——	1 10 52,67	4 10 52,89	70 10 52,85		10 44,01		+ 8,84	0,170
769	——	5 3 41,49	——	67 3 41,49		3 39,94		+ 1,55	0,175
770	4 26 32,57	5 26 33,01	——	28 26 32,82		26 38,73		— 5,91	0,195
771	——	6 50 19,95	——	73 50 19,95		50 16,88		+ 3,07	0,196
772	4 45 43,73	5 45 40,14	——	75 45 41,74		45 40,74		+ 1,00	0,199
773	——	5 7 20,80	——	117 7 20,80		7 19,50		+ 1,30	0,333
774	5 26 56,85	5 26 56,09	5 26 57,21	60 26 56,72	26 53,58	26 57,63	+3,14	— 0,91	0,396
775	10 27 5,65	4 27 6,47	5 27 6,63	67 27 6,08	27 9,47	27 7,90	—3,39	— 1,82	0,403
776	7 56 27,19	5 56 27,62	5 56 26,66	30 56 27,16	56 26,68	56 26,15	+0,48	+ 1,01	0,403
777	——	——	5 47 41,77	70 47 41,77		47 32,65		+ 9,12	0,424
778	——	——	5 48 44,34	73 48 44,34		48 39,13		+ 5,21	0,491
779	——	5 59 0,79	——	65 59 0,79		58 59,86		+ 0,93	0 518
780	——	——	5 24 12,72	77 24 12,72		24 15,62		— 2,90	0,542
781	5 13 48,75	9 13 47,85	——	96 13 48,17	13 48,38	13 43,75	—0,21	+ 4,42	0,574
782	——	——	5 12 36,69	66 12 36,69		12 39,37		— 2,68	0,577
783	5 41 17,61	——	5 41 18,29	77 41 17,95		41 15,88		+ 2,07	0,603
784	——	5 43 57,05	——	62 43 57,05		43 56,15		+ 0,90	0,672
785	——	5 0 19,48	——	80 0 19,48		0 13,23		+ 6,25	0,677
786	——	5 28 19,93	——	66 28 19,93		28 18,89		+ 1,04	0,784
787	5 5 26,03	5 5 25,68	——	125 5 25,85		5 22,00		+ 3,85	0,918
788	——	5 45 30,52	——	97 45 30,52		45 29,17		+ 1,35	1,008
789	5 38 15,33	5 38 14,11	——	40 38 14,72		38 16,08		— 1,36	1,008
790	20 24 27,86	5 24 26,69	18 24 27,56	67 24 27,59	24 29,67	24 27,46	—2,08	+ 0,13	1,107
791	5 59 42,83	5 59 43,71	——	119 59 43,27	59 37,70	59 44,18	+ 5,57	— 0,91	1,205
792	——	6 52 19,95	——	64 52 19,95		52 16,25		+ 3,70	1,246
793	3 9 28,02	2 9 29,67	——	86 9 28,68		9 26,56		+ 2,12	1,254
794	——	1 19 47,25	4 19 47,58	85 19 47,52		19 36,16		+ 11,36	1,290
795	——	7 28 24,84	——	66 28 24,84		28 26,70		— 1,86	1,328
796	——	3 35 17,21	——	66 35 17,21		35 17,35		— 0 14	1,329
797	27 52 40,11	5 52 39,92	5 52 40,29	107 52 40,08	52 41,98	52 48,36	—1,90	— 8,28	1,329
798	5 21 20,55	5 21 19,03	——	123 21 19,79	21 22,50	21 26,02	—2,71	— 6,23	1,389
799	——	5 6 54,99	——	69 6 54,99		6 55,01		— 0,02	1,541
800	——	5 24 44,47	——	59 24 44,47		24 39,22		+ 5,25	1,541
801	——	5 24 40,35	——	69 24 40,35		24 36,28		+ 4,07	1,558
802	——	——	6 36 28,13	89 36 28,13		36 24,30		+ 3,83	1,616
803	——	——	4 11 0,40	90 11 0,40		10 53,91		+ 6,49	1,622
804	5 41 24,20	6 41 22,38	5 41 24,32	69 41 23,68	41 21,39	41 18,67	+2,29	+ 5,01	1,648
805	——	——	5 7 1,90	69 7 1,90		7 3,86		— 1,96	1,663
806	——	5 39 57,98	——	94 39 57,98		39 56,51		+ 1,47	1,709
807	59 36 22,19	15 36 23,38	13 36 21,78	142 36 22,33		36 31,02		— 8,69	1,762
808	——	5 26 2,67	——	57 26 2,67		26 1,62		+ 1,05	1 865
809	——	5 59 10,15	——	73 59 10,15		59 7,24		+ 2,91	1,907
810	6 28 44,84	5 28 42,17	——	122 28 43,76		28 47,17		— 3,41	1,910

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
811	7	21 Geminorum		——		——	5	30,10	6 22 30,12		30,32		—0,20	+3,497
812	6	12 Monocer *e*		——	6	24,19		——	6 23 24,19		24,22		—0,03	3,184
813	5	13 Monocer *f*	6	49,18	5	49,12		——	6 23 49,15		49,04		+0,11	3,242
814	6.7	Geminorum		——	6	3,84		——	6 24 3,86		3,50		+0,36	3,406
815	6	Canis Maj. C		——	5	7,37		——	6 24 7,35		7,61		—0,26	2,372
816	6	Canis Maj.		——	1	32,15	4	32,09	6 24 32,08		32,01		+0,07	2,638
817	6	49 Aurigæ *c*		——		——	5	36,91	6 24 36,94		37,45		—0,51	3,779
818	5.6	4 Canis Maj ξ^1		——		——	4	51,58	6 24 51,55		50,95		+0,60	2,496
819	6	14 Monocer *g*		——		——	5	40,53	6 25 40,54		40,23		+0,31	3,248
820	3	24 Geminor. γ	3	0,06	4	0,34	2	0,19	6 28 0,23	0,29	59,93	—0,06	+0,30	3,462
821	5	5 Canis Maj ξ^2	4	1,26	2	1,01		——	6 28 1,17		0,74		+0,43	2,510
822	6	54 Aurigæ		——	6	57,33		——	6 28 57,35		57,03		+0,32	3,785
823	5	7 Canis Maj ν^2	4	21,39	6	21,48		——	6 29 21,44		21,32		+0,12	2,669
824	5.6	8 Canis Maj ν^3		——	6	30,20		——	6 30 30,19		29,92		+0,27	2,635
825	7	25 Geminorum		——	3	45,50	2	45,31	6 30 45,45		44,84		+0,61	3,782
826	5	55 Aurigæ	2	50,99	4	50,83		——	6 30 50,91		50,86		+0,05	4,377
827	6	15 Monocer *h*		——	4	43,49	2	43,60	6 31 43,54		43,40		+0,14	3,302
828	5.6	26 Geminor μ		——		——	7	37,18	6 32 37,20	37,25	37,13	—0,05	+0,07	3,493
829	3	Argus ν	4	37,24	6	37,39		——	6 32 37,32		37,32		0,00	1,832
830	5	42 Camelopardi	5	23,39		——		——	6 33 23,39		23,12		+0,27	6,299
831	3	27 Geminor ε	5	35,69	4	35,62	8	35,52	6 33 35,62	35,63	35,28	0.01	+0,34	3,693
832	6	28 Geminorum		——	4	6,61	2	6,48	6 34 6,59	6,33	6,05	+0,26	+0,54	3,805
833	5.6	30 Geminor ξ^1		——	6	30,92		——	6 34 30,93		29,95		+0,98	3,383
834	5	Camelopardi		——	5	26,75		——	6 35 26,88		26,36		+0,52	3,868
835	5	43 Camelop. *g*		——	6	32,76		——	6 35 32,84		34,81		——	6,520
836	4	31 Geminor ξ^2	6	51,75	5	51,54		——	6 35 51,66	51,53	51,57	+0,13	+0,09	3,375
837	6	16 Monocerotis		——	6	22,66		——	6 37 22,66		22,02		+0,64	3,271
838	1	9 Canis Maj α	21	44,62	10	44,59	77	44,67	6 37 44,63	44,55	44,56	+0,08	+0,07	2,643*
839	5	17 Monocer *i*	4	12,47	4	12,43		——	6 38 12,45		12,03		+0,42	3,258
840	5	18 Monocer *k*	1	5,77	5	6,09		——	6 39 6,05		5,81		+0,24	3,128
841	6	11 Canis Maj ψ^2		——	6	11,33		——	6 39 11,32		10,78		+0,54	2,734
842	6	33 Geminor G		——	6	9,52		——	6 40 9,53		8,56		+0,97	3,455
843	6	35 Geminorum		——		——	6	56,40	6 40 56,42		56,22		+0,20	3,386
844	6.7	36 Geminor *d*		——	6	28,89		——	6 41 28,90		28,62		+0,28	3,598
845	5	Argûnpup *x*	7	36,40	6	36,38		——	6 41 36,38		36,43		—0,05	2,051
846	5	34 Geminor θ	3	42,62	5	42,43		——	6 41 42,52		42,14		+0,38	3,960
847	5	15 Lyncis *e*	4	42,30	1	42,44		——	6 42 42,34		41,78		+0,56	5,222
848	4	13 Canis Maj κ^2	6	34,06	6	34,13	7	34,11	6 43 34,09	34,13	33,91	—0,04	+0,18	2,238
849	5	Canis Maj	7	45,69	5	45,83		——	6 44 45,74		45,70		+0,04	2,178
850	6	37 Geminorum		——	5	58,54	2	58,47	6 44 58,53		58,01		+0,52	3,695
851	5.6	38 Geminor e^1		——		——	5	9,78	6 45 9,80		9,65		+0,15	3,380
852	4	Argus τ		——	6	16,24	1	45,93	6 45 46,16		45,85		+0,31	1,484
853	5.6	15 Canis Maj π^1		——		——	6	17,08	6 46 17,06		16,84		+0,22	2,591
854	5	14 Canis Maj θ		——	6	23,37		——	6 46 23,36		23,01		+0,35	2,794
855	7	Geminorum		——	6	30,24		——	6 46 30,25		29,90		+0,35	3,492

No.	Mean N. P D. reduced to January 1, 1832, from Observations in						Mean N. P D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
811		——	5	6 19,49		——	72 6 19,49		6 17,87		+ 1,62	+1,955
812		——	4	1 57,15	1	1 56,04	85 1 56,93		1 47,73		+ 9,20	2,034
813	5	33 4,08	5	33 0,58		——	82 33 2,33		33 6,48		— 4,15	2,070
814		——		——	5	43 26,80	75 43 26,80		43 20,57		+ 6,23	2,090
815		——	5	39 25,37		——	117 39 25,37		39 27,03		— 1,66	2,099
816		——	4	56 46,34		——	107 56 46,34		56 49,57		— 3,23	2,134
817		——	5	51 18,68		——	61 51 18,68		51 20,12		— 1,44	2,138
818		——	5	17 9,11		——	113 17 9,11		18 10,44		— 1,33	2,162
819		——	5	18 15,65		——	82 18 15,65		18 16,32		— 0,67	2,231
820	10	27 50,90	5	27 51,74	16	27 51,43	73 27 51,31	27 53,66	27 51,35	—2,35	— 0,04	2,432
821	5	50 11,08	5	50 10,88		——	112 50 10,98		50 7,83		+ 3,15	2,436
822		——	8	35 48,62		——	61 35 48,62		35 50,69		— 2,07	2,514
823	5	7 4,24	5	7 3,68		——	109 7 3,96		7 3,72		+ 0,24	2,553
824		——	5	5 50,72		——	168 5 50,72		5 49,18		+ 1,54	2,652
825		——	2	39 24,37		——	61 39 24,37		39 22,45		+ 1,92	2,670
826	5	19 27,37	5	19 28,14		——	45 19 27,75		19 24,34		+ 3,41	2,677
827	5	57 27,21	3	57 27,45		——	79 57 27,33		57 22,25		+ 5,08	2,756
828		——	5	11 53,32		——	72 11 53,32	11 51,84	11 51,21	+1,48	+ 2,11	2,833
829	5	3 8,02	5	3 5,48		——	133 3 6,75		3 10,64		— 3,89	2,838
830	5	15 26,34	5	15 24,94		——	22 15 25,64		15 26,56		— 0,92	2,891
831	16	42 40,80	6	42 42,83	23	42 41,68	64 42 41,33	42 39,04	42 36,57	+2,29	+ 4,76	2,916
832		——	5	52 4,35		——	60 52 4,35	52 2,39	52 0,70	+1,96	+ 3,65	2,960
833		——	1	36 34,87	4	36 31,92	76 36 32,51		36 34,91		— 2,40	2,996
834	5	49 39,46	5	49 40,82		——	12 49 40,14		49 40,70		— 0,56	3,061
835	5	55 51,48	5	55 51,95		——	20 55 51,71		55 49,66		+ 2,05	3,080
836	5	55 49,01	5	55 48,57	1	55 48,65	76 55 48,77	55 49,24	55 45,24	—0,47	+ 3,53	3,113
837		——	5	14 32,79		——	81 14 32,79		14 29,35		+ 3,44	3,244
838	52	29 30,40	24	29 30,08	54	29 30,74	106 29 30,46	29 31,08	29 27,58	—0,62	+ 2,88	4,418*
839	5	47 18,42	5	47 18,22		——	81 47 18,32		47 17,85		+ 0,47	3,316
840	5	24 37,24	5	24 37,78		——	87 24 37,51		24 31,34		+ 6,17	3,394
841		——	5	15 6,70		——	104 15 6,70		15 0,70		+ 6,00	3,402
842		——	5	36 47,15		——	73 36 47,15		36 45,75		+ 1,40	3,483
843		——	5	24 4,46		——	76 24 4,46		24 1,48		+ 2,98	3,551
844		——	5	2 51,89		——	68 2 51,89		2 51,28		+ 0,61	3,597
845	5	44 53,96	5	44 51,86		——	127 44 52,91		44 56,30		— 3,39	3,613
846	5	50 42,31	5	50 44,38		——	55 50 43,35		50 43,43		— 0,08	3,615
847	5	22 9,30	5	22 6,90		——	31 22 8,10		22 11,50		— 3,40	3,697
848	5	19 9,35	4	19 9,69		——	122 19 9,50	19 9,20	19 8,20	+0,30	+ 1,30	3,781
849	5	10 24,22	5	10 25,96		——	124 10 25,09		10 27,88		— 2,79	3,883
850		——	5	25 21,22		——	64 25 21,22		25 17,72		+ 3,50	3,897
851	5	36 55,81		——	1	36 57,74	76 36 56,13		36 55,14		+ 0,99	3,914
852	5	25 4,84	5	25 4,86		——	140 25 4,85		24 59,70		+ 5,15	3,971
853	5	1 23,22	2	1 24,89		——	110 1 23,70		1 20,12		+ 3,58	4,013
854		——		——		——	101 ——		50 3,72		——	4,021
855		——	5	3 10,94		——	72 3 10,94		3 8,28		+ 2,66	4,029

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
856	4	Equul Pict α	2	28,05	4	28,04		——	6 46 28,01		27,74		+0,27	+0,631
857	4	16 Canis Maj. o^1	5	9,84	6	9,91		——	6 47 9,87	9,92	9,65	—0,05	+0,22	2,486
858	6	17 CanisMaj. π^2		——	2	47,64	4	47,64	6 47 47,62		47,47		+0,15	2,587
859	7	Geminorum		——		——	4	55,72	6 47 55,74		55,48		+0,26	3,496
860	5.6	19 CanisMaj. π^3		——		——	5	20,62	6 48 20,60		20,03		+0,57	2,594
861	6.7	39 Geminor. y^1		——		——	11	25,76	6 48 25,79		25,07		+0,72	3,714
862	5.6	18 Canis Maj. μ		——		——	6	24,91	6 48 24,90		24,28		+0,62	2,746
863	4.5	20 Canis Maj. ι	10	38,81	5	38,78	3	38,90	6 48 38,81	38,76	38,45	+0,05	+0,36	2,673
864	6.7	40 Geminor. y^2		——		——	5	5,27	6 49 5,30		4,95		+0,35	3,709
865	7	Geminorum		——	2	11,61	2	11,41	6 50 11,53		11,19		+0,34	3,446
866	6.7	41 Geminorum		——	6	36,40		——	6 50 36,41		35,98		+0,43	3,450
867	6	Canis Maj.		——	5	38,08		——	6 50 38,07		37,79		+0,28	2,476
868	6	Canis Maj.		——	6	43,03		——	6 51 43,02		42,72		+0,30	2,455
869	2.3	21 Canis Maj. ε	11	1,65	10	1,53	6	1,59	6 52 1,58	1,59	1,29	—0,01	+0,29	2,354
870	6	42 Geminor. ω^1		——		——	6	10,16	6 52 10,18		10,05		+0,13	3,660
871	6.7	Geminorum		——	1	49,58	4	49,22	6 52 49,30		48,78		+0,52	3,808
872	4	43 Geminorum ζ	7	8,47	4	8,39	12	8,45	6 54 8,45	8,42	8,33	+0,03	+0,12	3,562
873	5.6	19 Monocer s		——	6	34,38		——	6 54 34,38		33,78		+0,60	2,977
874	4.5	Camelopardi	4	14,18	5	15,36		——	6 55 14,99	15.27	14,68	—0,28	+0,31	13,217
875	3.4	22 Canis Maj. σ	6	1,72	5	1,83		——	6 55 1,76	1,81	1,53	—0,05	+0,23	2,387
876	6.7	44 Geminor. ω^2		——	6	11,31	1	10,90	6 55 11,28		10,76		+0,52	3,616
877	4	24 Canis Maj. o^2	4	0,64	6	0,76		——	6 56 0,70	0,79	0,38	—0,09	+0,32	2,502
878	4	23 Canis Maj. γ	7	9,50	9	9,53	8	9,54	6 56 9,51	9,46	9,21	+0,05	+0,30	2,711
879	6	45 Geminor. o		——	6	43,74		——	6 58 43,75		43,56		+0,19	3,444
880	5	63 Aurigæ	6	5,30	5	5,32	1	5,31	7 0 5,32		5,58		—0,26	4,135
881	5	46 Geminor. τ	5	26,21	5	26,33		——	7 0 26,29		26,02		+0,27	3,829
882	6	47 Geminorum		——	6	57,58		——	7 0 57,60		57,25		+0,35	3,729
883	3.4	25 Canis Maj. δ	5	33,50	7	33,76	6	33,78	7 1 33,66	33,69	33,52	—0,03	+0,14	2,436
884	5.6	20 Monocerotis		——	6	53,04		——	7 1 53,04		52,96		+0,08	2,979
885	6	48 Geminor. m		——	6	13,73	2	13,45	7 2 13,69		13,22		+0,47	3,652
886	5.6	Canis Maj.		——	4	47,85	2	47,81	7 2 47,82		47,74		+0,08	2,469
887	4.5	22 Monocer. m	7	17,00	5	17,08	7	17,16	7 3 17,08	17.08	17,12	0 00	—0,04	3,063
888	5	51 Geminorum	5	43,26	1	43,15	6	43,14	7 3 43,20	43,29	43,15	—0,09	+0,05	3,447
889	7	52 Geminor. n		——		——	7	24,93	7 4 24,95		24,81		+0,14	3,671
890	6	26 Canis Maj.		——	6	19,91		——	7 5 19,89		19,94		—0,05	2,452
891	6	53 Geminor. z		——		——	6	27,17	7 5 27,20		26,73		+0,47	3,755
892	5	64 Aurigæ	5	20,55	4	20,58		——	7 6 20,58		20,16		+0,42	4,188
893	7	Geminorum		——	6	6,09		——	7 7 6,11		5,94		+0,17	3,446
894	4.5	27 Canis Maj. o^1	9	24,48	6	24,55		——	7 7 24,49		24,33		+0,16	2,443
895	5	Arg. in pup I	5	46,33	6	46,33		——	7 7 46,31		46,36		—0,05	1,722
896	6	28 Canis Maj. ω		——	5	59,73		——	7 7 59,70		59,12		+0,58	2,431
897	5	Arg. in pup L	1	12,17	4	11,85	4	11,92	7 8 11,90		11,41		+0,49	1,795
898	4.5	54 Geminor. λ	4	26,20	6	26,18	8	26,03	7 8 26,12	25,98	26,13	+0,14	—0,01	3,455
899	6	Canis Maj.		——	6	51,15		——	7 9 51,14		50,95		+0,19	2,402
900	3.4	55 Geminor. δ	6	5,05	2	5,10	12	4,97	7 10 5,02	5,11	4,82	—0,09	+0,20	3,590

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
856	5	45 44,37	1	45 44,39		——	151 45 44,37		45 47,25		— 2,88	+4,034
857	5	58 43,43	5	58 41,52		——	113 58 42,48	58 46,53	58 43,51	—4,05	— 1,03	4,088
858		——	4	11 50,38		——	110 11 50,38		11 45,57		+ 4,81	4,142
859		——		——	5	53 3,06	71 53 3,06		53 1,09		+ 1,97	4,151
860		——	4	55 45,26		——	109 55 45,26		55 37,57		+ 7,69	4,188
861		——		——	3	42 19,73	63 42 19,73		——		——	4,192
862		——	5	49 54,38		——	103 49 54,38		49 54,21		+ 0,17	4,194
863	6	50 31,38	5	50 33,53		——	106 50 32,36	50 32,50	50 28,11	—0,14	+ 4,25	4,214
864		——	1	51 54,23	4	51 54,69	63 51 54,60		51 54,13		+ 0,47	4,249
865		——		——	3	50 9,21	73 50 9,21		50 7,82		+ 1,39	4,344
866		——	5	41 45,46	1	41 45,78	73 41 45,51		41 41,89		+ 3,62	4,379
867		——	2	25 3,23	2	25 0,43	114 25 1,83		25 1,24		+ 0,59	4,385
868		——	4	11 36,27		——	115 11 36,27		11 30,20		+ 6,07	4,477
869	35	41 51,48	6	44 50,00	17	44 50,29	118 44 50,98	44 54,37	44 51,80	—3,39	— 0,82	4,504
870		——	5	33 11,42		——	65 33 11,42		33 7,31		+ 4,11	4,512
871		——	5	23 23,61		——	60 23 23,61		22 58,32		+ 25,29	4,567
872	5	11 26,04	8	11 25,23	25	11 26,76	69 11 26,35	11 27,39	11 28,60	—1,04	— 2,25	4,681
873		——	5	0 6,64		——	94 0 6,64		0 0,45		+ 6,19	4,718
874	5	17 33,08	5	17 33,12		——	7 17 33,10	17 32,10	17 31,49	+1,00	+ 1,61	4,747
875	6	41 56,18	5	41 57,00		——	117 41 56,55	41 56,80	41 59,66	—0,25	— 3,11	4,759
876		——	5	7 8,38		——	67 7 8,38		7 6,43		+ 1,95	4,769
877	5	35 31,46	5	35 31,11		——	113 35 31,29	35 37,86	35 36,12	—6,57	— 4,83	4,842
878	5	23 29,60	5	23 29,91		——	105 23 29,75	23 28,63	23 23,78	+1,12	+ 5,97	4,854
879		——	6	48 27,84		——	73 48 27,84		48 26,82		+ 1,02	5,070
880	5	24 55,02	5	24 55,09		——	50 24 55,05		24 48,43		+ 6,62	5,184
881	4	29 19,18	5	29 18,60		——	59 29 18,86		29 12,34		+ 6,52	5,213
882	4	52 27,77		——		——	62 52 27,77		52 30,51		— 2,73	5,257
883	5	7 53,46	5	7 51,59		——	116 7 52,52	7 54,22	7 52,59	—1,70	— 0,07	5,312
884	5	58 50,06		——		——	93 58 50,06		58 47,44		+ 2,62	5,338
885	5	35 53,27		——		——	65 35 53,27		35 52,25		+ 1,02	5,364
886		——	5	57 56,99		——	114 57 56,99		57 51,77		+ 5,22	5,416
887	5	13 19,33	4	13 18,68		——	90 13 19,04	13 16,55	13 15,08	+2,49	+ 3,96	5,456
888	5	33 44,45	5	33 44,13	10	33 44,83	73 33 44,56	33 46,06	33 44,79	—1,50	— 0,23	5,491
889		——	5	49 55,81		——	64 49 55,81		49 51,26		+ 4,55	5,549
890	3	40 1,25		——		——	115 40 1,25		39 53,05		+ 8,20	5,630
891		——		——	5	49 5,64	61 49 5,64		49 2,90		+ 2,74	5,635
892	5	49 34,01	5	49 33,93		——	48 49 33,97		49 38,42		— 4,45	5,709
893		——	4	33 53,34	3	33 52,93	73 33 53,17		33 54,85		— 1,68	5,775
894	5	4 4,16	5	4 3,71		——	116 4 3,93	4 5,33	4 1,68	—1,40	+ 2,25	5,803
895	5	28 55,43	6	28 54,45		——	136 28 54,90		28 58,59		— 3,69	5,836
896	5	29 9,14		——	5	29 9,42	116 29 9,28		29 7,08		+ 2,20	5,852
897	5	53 44,39	5	53 43,43		——	134 53 43,91		53 33,75		+ 10,16	5,871
898	5	9 44,69	5	9 48,32	10	9 46,30	73 9 46,40	9 49,56	9 47,46	—3,16	— 1,06	5,887
899		——	5	35 20,45		——	117 35 20,45		35 21,76		— 1,31	6,008
900	5	42 54,86	10	42 54,26	8	42 55,71	67 42 54,89	42 57,28	42 56,32	—2,39	— 1,43	6,024

No.	Mag.	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
901	5	Piscis Vol γ	2	8,77	4	8,82		——	7 10 8,73		8,33		+0,40	—0,475
902	5	65 Aurigæ	5	48,38	4	48,49		——	7 10 48,44		47,66		+0,78	+4,030
903	3.4	Argus π	2	12,39	6	12,57	4	12,95	7 11 12,63		11,81		+0,82	2,146
904	6	29 Canis Maj.		——	6	40,80		——	7 11 40,78		40,15		+0,63	2,495
905	6	30 Canis Maj. d		——		——	5	44,64	7 11 44,61		44,64		—0,03	2,485
906	5.6	56 Geminor. q		——	7	1,64		——	7 12 1,65	1,77	1,76	—0,12	—0,11	3,550
907	6	57 Geminor. A		——	4	13,60	1	13,80	7 13 13,66		13,58		+0,08	3,070
908	7	58 Geminorum	1	22,07	6	22,15	1	21,96	7 13 22,13		21,28		+0,85	3,613
909	6-7	59 Geminorum		——	6	5,75		——	7 14 5,76		5,48		+0,28	3,741
910	6	Canis Maj.		——	6	10,51		——	7 14 10,50		9,91		+0,59	2,462
911	4	60 Geminor ι	12	17,12	7	17,18	13	16,95	7 15 17,05	17,04	16,94	+0,01	+0,11	3,744
912	6	1 Canis Min.		——		——	6	37,87	7 15 37,88		37,80		—0,02	3,337
913	6	2 Canis Min. ε		——	6	27,76		——	7 16 27,76		27,44		+0,32	3,282
914	5	Piscis Vol δ	5	53,32	1	53,61		——	7 16 53,36		53,50		—0,14	0,000
915	3	31 Canis Maj. η	6	27,15	6	27,16	3	27,27	7 17 27,18	27,22	26,37	—0,01	+0,81	2,370
916	6	63 Geminor p		——	6	45,70	3	45,73	7 17 45,72	45,67	45,61	+0,05	+0,11	3,572
917	3	3 Canis Min. β	6	2,40	6	2,18	21	2,29	7 18 2,29	2,21	1,73	+0,08	+0,56	3,259
918	5	62 Geminor ρ	4	17,87	3	18,02		——	7 18 17,94		17,21		+0,73	3,858
919	5.6	64 Geminor b^1		——	2	51,84	4	51,68	7 18 51,75		51,38		+0,37	3,750
920	6	5 Canis Min. η		——		——	6	59,73	7 18 59,73		59,92		—0,19	3,229
921	5.6	4 Canis Min. γ		——	6	0,79		——	7 19 0,79		0,68		+0,11	3,273
922	5.6	65 Geminor b^2		——		——	5	21,18	7 19 21,20		20,79		+0,41	3,744
923	5.6	6 Canis Min. o		——	6	26,56		——	7 20 26,57		25,83		+0,74	3,343
924	6	Argus		——	8	19,22		——	7 21 19,21		19,12		+0,09	2,379
925	6	7 Canis Min. δ^1		——	5	22,19		——	7 23 22,19		21,96		+0,21	3,118
926	7	67 Geminorum		——		——	6	49,42	7 23 49,43		49,31		+0,12	3,426
927	3	66 Geminor μ	30	51,96	15	52,13	60	52,11	7 23 52,10	52,18	52,00	—0,08	+0,10	3,856
928	4	Argus σ	5	54,21	5	54,10		——	7 23 54,14		53,69		+0,45	1,906
929	5	68 Geminor k	5	1,13	5	0,99		——	7 24 1,07		0,80		+0,27	3,430
930	5.6	8 Canis Min. δ^2		——	9	23,17		——	7 24 23,17		22,67		+0,50	3,148
931	7	Geminorum		——		——	6	27,49	7 24 27,53		27,57		—0,04	3,827
932	6	9 Canis Min δ^3		——	1	26,85	2	26,90	7 25 26,86		26,20		+0,66	3,149
933	5	69 Geminor v		——	4	33,76	6	33,72	7 25 33,76	33,76	33,74	0,00	+0,02	3,709
934	7	Geminorum		——	7	12,45	1	12,44	7 27 12,46		12,09		+0,37	3,533
935	6	Arg. in pup n^1		——	6	12,74		——	7 27 12,73		12,63		+0,10	2,589
936	6	Arg. in pup n^2		——		——	5	13,58	7 27 13,56		13,73		—0,17	2,539
937	5.6	Arg. in pup p		——		——	5	38,28	7 28 38,26		38,34		—0,08	2,410
938	6	25 Monocerotis		——	5	55,51		——	7 28 55,51		54,95		+0,56	2,987
939	7	Geminorum		——	2	8,89	3	8,61	7 29 8,75		——		——	3,853
940	6	74 Geminor f		——		——	5	46,12	7 29 46,15	46,20	46,16	—0,05	—0,01	3,471
941	1.2	10 Canis Min. α	41	30,27	16	30 29	48	30,29	7 30 30,29	30,35	30,14	—0,06	+0,15	3,143*
942	6	Arg. in pup m		——	6	18,60		——	7 31 18,59		18,08		+0,51	2,494
943	6	75 Geminor σ		——	5	48,13		——	7 32 48,14		47,81		+0,33	3,757
944	4.5	26 Monocer. n	5	13,11	6	13,35		——	7 33 13,24	13,30	13,02	—0,06	+0,22	2,870
945	7	Geminorum		——	6	21,35	2	21,29	7 33 21,35		21,02		+0,33	3,584

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green. wich Cata. logue.	A. S. Cata. logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
	′ ″	′ ″	′ ″	° ′ ″	′ ″	′ ″	″	″	″
901	3 13 32,65	5 13 32,41	——	160 13 32,50		13 31,32		+ 1,18	+ 6,040
902	5 55 53,20	5 55 51,94	——	52 55 52,57		55 50,40		+ 2,17	6,082
903	5 48 2.49	5 47 59,41	——	126 48 0,95		48 1,26		— 0,31	6,121
904	5 15 25,37	5 15 26,78	——	114 15 26,08		15 25,87		+ 0,21	6,159
905	5 39 12,78	——	——	114 39 12,78		39 10,51		+ 2,27	6,465
906	2 14 45,90	——	5 14 48,21	69 14 47,55	14 48,09	14 46,38	—0,54	+ 1,17	6,186
907	——	5 38 4,17	——	64 38 4,17		38 1,16		+ 3,01	6,285
908	——	——	4 44 19,86	66 44 19,86		44 20,79		— 0,93	6,296
909	——	10 2 43,28	——	62 2 43,28		2 43,66		— 0,38	6,357
910	——	5 34 56,83	——	115 34 56,83		34 53,91		+ 2,92	6,367
911	5 52 34,93	10 52 33,97	9 52 32,99	61 52 33,81	52 32,91	52 28,65	+0,90	+ 5,16	6,456
912	——	——	4 0 28,71	78 0 28,71		0 30,05		— 1,34	6,486
913	——	5 24 0,91	——	80 24 0,91		23 57,53		+ 3,38	6,554
914	4 38 54,03	5 38 51,98	——	157 38 52,89		38 51,80		+ 1,09	6,599
915	13 58 46,76	5 58 45,42	——	118 58 46,38	58 49,38	58 48,85	—3,00	— 2,47	6,638
916	——	——	5 13 5,16	68 13 5,16	13 5,88	13 4,75	—0,72	+ 0,41	6,661
917	8 22 44,25	9 22 44,29	——	81 22 44,27	22 44,24	22 40,03	+0,03	+ 4,24	6,684
918	5 53 21,35	3 53 18,69	——	57 53 20,35		53 20,59		— 0,24	6,703
919	7 32 35,42	——	——	61 32 35,42		32 35,62		— 0,20	6,751
920	——	5 43 20,42	——	82 43 20,42		43 14,77		+ 5,65	6,764
921	1 44 30,66	4 44 30,45	——	80 44 30,51		44 28,04		+ 2,47	6,765
922	——	4 44 41,79	——	61 44 41,79		44 36,92		+ 4,87	6,791
923	——	5 39 9,40	——	77 39 9,40		39 6,59		+ 2,81	6.881
924	——	6 49 4,34	——	118 49 4,34		49 5,66		— 1,32	6,957
925	——	5 44 5,80	——	87 44 5,80		44 3,00		+ 2,80	7,122
926	——	6 0 26,62	——	74 0 26,62		0 21,81		+ 4,81	7,159
927	33 45 3,91	23 45 3,61	77 45 3,65	57 45 3,71	45 4,22	45 3,45	—0,51	+ 0,26	7,161
928	5 57 53,50	5 57 49,24	——	132 57 51,37		57 58,76		— 7,39	7,169
929	5 49 5,48	5 49 4,57	——	73 49 5,02		49 2,76		+ 2,26	7,174
930	6 21 29,32	——	——	86 21 29,32		21 27,44		+ 1,88	7,205
931	——	5 40 54,18	——	58 40 54,18		40 54,73		— 0,55	7,210
932	6 16 13,47	——	——	86 16 13,47		16 10,30		+ 3,17	7,291
933	5 44 16,03	5 44 15,93	——	62 44 15,98	44 17,52	44 13,36	—1,51	+ 2,62	7,300
934	——	5 28 19,21	——	69 28 19,21		28 13,55		+ 5,66	7,431
935	——	5 6 46,47	——	113 6 46,47		6 44,26		+ 2,21	7,457
936	——	5 6 44,69	——	113 6 44,89		6 47,81		— 2,92	7,439
937	——	2 0 7,98	4 0 7,02	118 0 7,31		0 6,96		+ 0,38	7,553
938	——	5 44 26,37	——	93 44 26,37		44 32,55		— 6,18	7,574
939	——	5 36 46,18	——	57 36 46,18		36 42,85		+ 3,33	7,591
940	——	6 57 1,22	——	71 57 1,22	56 59,14	56 57,33	+2,08	+ 3,89	7,642
941	60 21 3,78	33 21 3,78	75 21 3,95	84 21 3,85	21 2,91	20 57,47	+0,94	+ 6,38	8,682*
942	——	4 59 24,41	——	114 59 24,44		59 18,10		+ 6,34	7,768
943	——	5 43 5,51	——	60 43 5,54		43 0,59		+ 5,15	7,885
944	4 9 51,82	——	——	99 9 51,82	9 54,80	9 51,10	—2,98	+ 0,72	7,921
945	——	5 12 39,39	——	67 12 39,39		12 41,33		— 1,94	7,930

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
946	6	76 Geminor. *c*		——	3	51,68	3	51,24	7 33 51,48		51,29		+0,19	+3,671
947	4	77 Geminor. *κ*	5	18,01	5	17,91		——	7 34 17,97	17,81	17,05	+0,16	+0,92	3,634
948	2	78 Geminor. *β*	24	1,62	17	1,57	63	1,50	7 35 1,56	1,60	1,14	—0,04	+0,42	3,682*
949	7	79 Geminorum		——	6	17,38		——	7 35 17,39		17,38		+0,01	3,530
950	6	1 Argus		——		——	5	52,09	7 35 52,07		51,82		+0,25	2,474
951	6	81 Geminor. *g*		——		——	8	23,42	7 36 23,44	23,61	23,08	—0,17	+0,36	3,486
952	5.6	Argus		——	6	45,56		——	7 36 45,54		45,04		+0,50	2,420
953	6	11 Canis Min *π*		——	6	1,07		——	7 37 1,08		0,80		+0,28	3,309
954	5	3 Argus	4	3,91	6	3,91		——	7 37 3,91		3,67		+0,24	2,405
955	5.6	4 Argus		——	4	12,73		——	7 38 12,72		12,27		+0,45	2,761
956	7	82 Geminor. *B*		——	6	30,49	2	30,43	7 38 30,49		29,79		+0,70	3,598
957	4	Arg in pup *c*	6	16,32	4	16,27		——	7 39 16,29		16,42		—0,13	2,135
958	5.6	Arg in pup *o*		——	6	6,27		——	7 41 6,26		5,87		+0,39	2,491
959	5.6	6 Argus		——	6	5,95		——	7 42 5,94		6,78		—0,84	2,704
960	7	Geminorum		——	5	10,08	1	9,86	7 42 10,05		9,94		+0,11	3,501
961	4	7 Argus *ξ*	7	13,99	6	13,93		——	7 42 13,95	13,90	13,73	+0,05	+0,22	2,520
962	5.6	13 Canis Min *ζ*		——	6	59,13		——	7 42 59,13		58,78		+0,35	3,114
963	5	83 Geminor. *Φ*	7	12,35	6	12,29		——	7 43 12,34	12,37	11,88	—0,03	+0,46	3,686
964	5	9 Argus	5	59,50	1	60,00	5	59,71	7 43 59,64		59,21		+0,43	2,781
965	4.5	Arg in pup *P*	4	7,32		——	2	7,53	7 44 7,38		7,36		+0,02	1,827
966	6	10 Argus		——	5	35,10	2	34,93	7 44 35,04		34,54		+0,50	2,760
967	6.7	85 Geminor. *l*		——	5	51,17	4	51,11	7 45 51,16		51,08		+0,08	3,511
968	6	Canis Min		——	6	23,54		——	7 46 23,54		23,57		—0,03	3,264
969	5	Arg in pup *b*	6	42,04	3	42,07		——	7 46 42,04		41,65		+0,39	2,121
970	6	1 Cancri		——	5	26,83		——	7 47 26,84		26,36		+0,48	3,415
971	5	Arg in pup *R*	6	21,95	6	21,82		——	7 48 21,86		22,08		—0,22	1,762
972	7	Cancri		——	6	56,01		——	7 48 56,02		55,72		+0,30	3,431
973	6	14 Canis Min		——	6	37,89		——	7 49 37,89		37,67		+0,22	3,123
974	5.6	11 Argus		——	6	38,43		——	7 49 38,41		38,39		+0,02	2,578
975	7	Cancri		——	6	11,97		——	7 50 11,98		11,70		+0,28	3,357
976	6	2 Cancri *ω*1		——		——	5	45,19	7 50 45,22		44,81		+0,41	3,641
977	6	Argus		——	3	58,55	3	58,50	7 50 58,50		57,73		+0,77	2,388
978	6	3 Cancri	1	9,20	5	9,35	1	9,33	7 51 9,33	9,33	8,94	0,00	+0,39	3,447
979	6.7	4 Cancri *ω*2		——		——	6	35,21	7 51 35,23		34,89		+0,34	3,633
980	6	12 Argus		——		——	6	53,61	7 51 53,59		52,70		+0,89	2,571
981	6	5 Cancri *r*		——	6	55,35		——	7 51 55,37		54,80		+0,57	3,427
982	3	Argus *χ*	5	30,11	3	30,24		——	7 52 30,14		30,34		—0,20	1,530
983	5.6	28 Monocer *p*		——	5	40,55		——	7 52 40,55		39,79		+0,76	3,049
984	5.6	6 Cancri		——	6	11,34		——	7 53 11,36		10,89		+0,47	3,701
985	5	13 Argus	8	31,43	5	31,49		——	7 53 31,45		31,31		+0,14	3,125
986	6	8 Cancri		——	6	42,65		——	7 55 42,67		42,44		+0,23	3,351
987	5	27 Lyncis *k*	7	47,27	3	46,99		——	7 55 47,18		46,99		+0,19	4,564
988	5	55 Camelopardi	5	59,12	1	59,30		——	7 55 59,18		58,19		+0,99	6,107
989	6	9 Cancri *μ*1		——	6	20,57		——	7 56 20,58	20,57	20,32	+0,01	+0,26	3,567
990	3	Argus *ζ*	8	40,92	9	40,90	2	41,15	7 57 40,93		40,74		+0,19	2,108

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
946		—	5	49 22,44		—	63 49 22,44		49 18,87		+ 3,57	+7,970
947	5	12 25,06	5	12 25,56		—	65 12 25,31	12 22,54	12 22,70	+2,77	+ 2,61	8,005
948	33	34 29,70	29	34 30,08	69	34 29,98	61 34 29,93	34 30,39	34 30,86	—0,46	— 0,93	8,064
949		—	5	17 16,11		—	69 17 16,11		17 15,10		+ 1,01	8,086
950		—	5	57 27,40		—	115 57 27,40		57 23,05		+ 4,35	8,135
951		—	4	5 14,12		—	71 5 14,12	5 13,03	5 10,69	+1,09	+ 3,43	8,174
952		—	5	0 55,02		—	118 0 55,02		0 55,65		— 0,63	8,206
953		—	5	49 42,62		—	78 49 42,62		49 38,04		+ 4,58	8,224
954	5	33 24,86	5	33 23,38		—	118 33 24,12		33 26,95		— 2,83	8,230
955		—	5	9 39,44		—	104 9 39,44		9 36,20		+ 3,24	8,320
956	1	26 58,98	5	26 57,88		—	66 26 58,06		27 0,49		— 2,43	8,341
957	5	33 52,36	5	33 49,63		—	127 33 51,00		33 54,77		— 3,77	8,407
958	9	31 32,20		—		—	115 31 32,20		31 27,76		+ 4,44	8,551
959	5	48 20,07		—		—	106 48 20,07		48 17,80		+ 2,27	8,630
960		—	5	15 9,37		—	70 15 9,37		15 3,48		+ 5,89	8,632
961	5	26 37,02	5	26 35,08		—	114 26 36,05	26 35,83	26 33,47	+0,22	+ 2,58	8,640
962		—	5	48 36 56		—	87 48 36,56		48 38,92		— 2,36	8,698
963	5	48 21,53	5	48 21,61	16	48 22,10	62 48 21,90	48 23,92	48 24,92	—2,02	— 3,02	8,713
964	5	27 24,61	5	27 23,74		—	103 27 24,17		27 28,44		— 4,27	8,778
965	5	57 12,83	5	57 13,52		—	135 57 13,17		57 12,25		+ 0,92	8,791
966		—	5	25 13,94		—	104 25 13,94		25 6,34		+ 7,60	8,824
967	1	40 45,47	4	40 46,95		—	69 40 46,65		40 42,73		+ 3,92	8,922
968	6	41 52,84		—		—	80 41 52,84		41 48,39		+ 4,45	8,965
969	5	25 51,23		—		—	128 25 51,23		25 52,51		— 1,28	8,992
970	7	46 0,62		—		—	73 46 0,62		45 58,67		+ 1,95	9,047
971	5	40 1,25	5	40 0,57		—	137 40 0,91		40 7,91		— 7,00	9,123
972	2	2 4,96	5	2 3,38		—	73 2 4,17		2 7,22		— 3,05	9,163
973		—	4	19 59,46		—	87 19 59,46		20 1,71		— 2,25	9,218
974		—	5	26 11,96		—	112 26 11,96		26 8,31		+ 3,65	9,220
975		—	5	18 26,41		—	76 18 26,41		18 24,82		+ 1,59	9,261
976		—		—	4	9 15,08	64 9 15,08		9 14,63		+ 0,45	9,303
977		—	5	53 19,38		—	119 53 19,38		53 13,97		+ 5,41	9,323
978	4	14 14,98	5	14 15,64		—	73 14 15,26	14 13,64	14 13,13	+1,62	+ 2,13	9,335
979		—	5	27 20,75		—	64 27 20,75		27 16,58		+ 4,17	9,368
980		—	5	51 29,39		—	112 51 29,39		51 24,07		+ 5,32	9,393
981		—	2	5 14,53		—	73 5 14,53		5 13,78		+ 0,75	9,394
982	15	32 3,87		—		—	142 32 3,87		32 9,53		— 5,66	9,445
983		—	5	55 54,78		—	90 55 54,78		55 54,31		+ 0,47	9,453
984	1	14 29 02	1	44 28,94	6	44 30,70	61 44 30,27		44 30,05		+ 0,22	9,491
985	5	12 36,43	5	12 35,39		—	87 12 35,91		12 31,48		+ 4,43	9,519
986		—	5	24 34,09		—	76 24 34,09		24 27,33		+ 6,76	9,686
987	5	1 2,46	5	1 2,41		—	38 1 2,45		1 10,38		— 7,93	9,689
988	5	2 34,31	5	2 34,84		—	21 2 34,59		—		—	9,699
989		—	5	55 29,08		—	66 55 29,08	53 28,57	53 26,06	+0,51	—	9,734
990	12	32 4,42	9	32 3,59	20	32 4,07	129 32 4,06		32 0,49		+ 3,57	9,840

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenb Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
991	6.7	10 Cancri μ^2		——	6	52,23	2	52,14	7 57 52,23		51,84		+0,39	+3,540
992	7	11 Cancri		——		——	2	32,25	7 58 32,28		32,51		—0,23	3,685
993	6	12 Cancri s	1	18,66		——	2	18,67	7 59 18,68		18,61		+0,07	3,360
994	5.6	29 Monocerotis		——	5	8,91		——	8 0 8,91		8,73		+0,18	3,018
995	3.4	15 Argus	6	23,33	5	23,45		——	8 0 23,38	23,55	22,94	—0,17	+0,44	2,558
996	5.6	16 Argus		——	6	31,77		——	8 1 31,76		30,38		+1,38	2,677
997	7	Cancri		——		——		——	8 2 ——		6,32		——	3,278
998	6	16 Cancri ζ		——		——	1	34,29	8 2 34,31		33,94		+0,37	3,445
999	6	15 Cancri ψ^3		——		——	2	43,33	8 2 43,36		42,53		+0,83	3,696*
1000	6	18 Argus		——		——	2	52,62	8 2 52,60		52,74		—0,14	2,796
1001	6	19 Argus		——	6	23,35		——	8 3 23,35		22,82		+0,53	2,815
1002	5	Argus γ^1	14	18,87	4	18,91		——	8 4 18,87		18,89		—0,02	1,847
1003	2	Argus γ^2	16	21,19	6	21,48	4	21,47	8 4 21,29		21,50		—0,21	1,848
1004	7	Cancri	1	33,78	3	33,70		——	8 4 33,72		33,46		+0,26	3,444
1005	5	20 Argus	5	36,94	6	36,77		——	8 5 36,84		36,43		+0,41	2,756
1006	5	Argus	5	45,83	1	45,78	5	45,81	8 5 45,79		45,06		+0,73	2,024
1007	5	Arg in pup r	6	9,14		——	7	9,43	8 7 9,29		9,04		+0,25	2,261
1008	4	17 Cancri β	7	24,04	6	24,10	6	24,02	8 7 24,05	24,00	23,56	+0,05	+0,49	3,262
1009	5	Piscis Vol ε		——	6	21,58		——	8 7 21,52		21,12		+0,40	0,242
1010	6	21 Argus		——	5	41,05		——	8 9 41,04		40,75		+0,29	2,750
1011	6	18 Cancri χ		——	6	50,95		——	8 9 50,97		50,37		+0,60	3,662
1012	6	19 Cancri λ		——	6	32,15		——	8 10 32,17		31,73		+0,44	3,582
1013	6.7	Cancri	1	32.92	5	32,61	2	32,50	8 10 32,63		31,90		+0,73	3,506
1014	5	31 Lyncis m	9	18,48	1	18,22		——	8 11 18,45		17,99		+0,46	4,142
1015	4.5	Arg in pup q	6	16,43	5	16,33		——	8 12 16,37		16,56		—0,19	2,250
1016	6	20 Cancri d^1		——	7	44,36	1	44,24	8 13 44,35		44,44		—0,09	3,449
1017	7	21 Cancri f		——	6	43,65		——	8 14 43,66		43,15		—0,51	3,288
1018	6	22 Argus		——	5	53,13		——	8 14 53,13		52,96		+0,17	2,821
1019	6	Argus		——	6	44,14		——	8 15 44,13		44,01		+0,12	2,532
1020	4.5	1 Ursæ Maj o	5	14,30	2	14,27		——	8 16 14,29	14,38	13,47	—0,09	+0,82	5,089
1021	6	1 Hydræ		——	5	12,65		——	8 16 12,65		11,86		+0,79	3,006
1022	6.7	22 Cancri Φ^1		——	4	13,76	2	13,75	8 16 13,84		13,35		+0,49	3,668
1023	6	25 Cancri d^2	1	18,72		——	5	18,81	8 16 18,80		18,34		+0,46	3,419
1024	6	23 Cancri Φ^2		——		——		——	8 16 ——		36,15		——	3,643
1025	7	24 Cancri υ^1		——		——	6	39,55	8 16 39,57		39,63		—0,06	3,586
1026	6	Cancri		——		——	6	53 88	8 16 53,88		53,82		+0,06	3,226
1027	5.6	30 Monocer q		——		——	6	15,99	8 17 15,99		15,60		+0,39	3,003
1028	6.7	27 Cancri e		——		——	6	26,20	8 17 26,20		25,81		+0,39	3,327
1029	6	Argus		——	6	48,83		——	8 17 48,87		48,02		+0,85	2,589
1030	6	2 Hydræ		——		——	3	3,49	8 18 3,49		3,25		+0,24	3,002
1031	6.7	28 Cancri υ^2		——	8	38,59	1	38,47	8 18 38,58		37,86		+0,72	3,574
1032	2	Argus ε	12	3,65	1	3,39	10	3,56	8 19 3,55		3,63		—0,08	1,243
1033	6	29 Cancri		——	6	14,49		——	8 19 14,50		14,09		+0,41	3,357
1034	6.7	30 Cancri υ^3		——	4	33,89		——	8 21 33,91		33,56		+0 35	3,568
1035	5.6	31 Cancri θ	1	0,52	6	0,56	1	0,58	8 22 0,57	0,39	59,84	+0,18	+0,73	3,436

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832.	No	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
991	2	56 9,21	2	56 9,67		——	67 56 9,44		56 10,48		— 1,04	+ 9,850
992		——		——	3	2 16,08	62 2 16,08		2 14,19		+ 1,89	9,901
993		——		——	2	52 37,00	75 52 37,00		52 31,54		+ 5,46	9,960
994	3	29 59,07	5	29 57,97		——	92 29 58,38		29 59,26		— 0,88	10,025
995	5	49 26,26	5	49 23,32		——	113 49 24,79	49 20,34	49 24,77	+4,45	+ 0,02	10,044
996	5	45 27,06	3	45 27,00		——	108 45 27,04		45 30,42		— 3,38	10,128
997		——		——	2	41 15,10	79 41 15,10		41 9,47		+ 5,63	10,172
998		——		——	2	51 8,28	71 51 8,28		51 5,12		+ 3,16	10,206
999		——		——		——	59 ——		50 48,65		——	10,216
1000		——		——	1	18 34,90	103 18 34,90		18 31,32		+ 3,58	10,232
1001	2	25 59,81	3	26 2,49		——	102 26 1,42		26 0,10		+ 1,32	10,269
1002	5	51 10,81		——		——	136 51 10,81		51 12,66		— 1,85	10,342
1003		——	5	50 38,05		——	136 50 38,05		50 43,67		— 5,62	10,345
1004		——	4	49 26,82		——	71 49 26,82		49 25,67		+ 1,15	10,356
1005	5	17 17,73	5	17 17,42		——	105 17 17,57		17 8,72		+ 8,85	10,436
1006	5	29 22,56	5	29 21,78		——	132 29 22,17		29 22,25		— 0,08	10,449
1007	5	23 50,93	5	23 47,99		——	125 23 49,46		23 44,43		+ 5,03	10,552
1008	8	18 12,41	6	18 14,46	14	18 13,06	80 18 12,53	18 9,30	18 7,07	+3,23	+ 5,46	10,568
1009		——		——		——	158 ——		7 29,56		——	10,572
1010	1	46 10,95	4	46 12,35		——	105 46 12,07		46 12,74		— 0,67	10,738
1011		——	4	14 40,63		——	62 14 40,63		14 39,98		+ 0,65	10,748
1012		——	5	27 17,78		——	65 27 17,78		27 18,11		— 0,33	10,799
1013		——	5	43 40,28		——	68 43 40,28		43 40,67		— 0,39	10,799
1014	5	16 49,39	5	16 48,62		——	46 16 49,00		16 48,00		+ 1,00	10,854
1015	5	8 35,39	5	8 31,99		——	126 8 33,69		8 34,07		— 0,38	10,931
1016	5	8 4,64	5	8 1,57		——	71 8 3,10		8 4,46		— 1,36	11,035
1017	2	49 53,52	5	49 54,53		——	78 49 54,24		49 51,89		+ 2,35	11,107
1018	2	31 7,72	3	31 8,54		——	102 31 8,21		31 9,78		— 1,57	11,120
1019		——	5	48 55,23		——	115 48 55,23		48 50,87		+ 4,36	11,182
1020	5	43 43,10	6	43 43,86	12	43 43,18	28 43 43,34	43 44,74	43 47,26	—1,40	— 3,92	11,212
1021		——	5	12 40,91		——	93 12 40,91		12 40,18		+ 0,73	11,215
1022		——	5	33 33,23		——	61 33 33,23		33 34,19		— 0,96	11,215
1023		——	5	24 20,83		——	72 24 20,83		24 22,03		— 1,20	11,222
1024		——		——		——	62 ——		31 22,41		——	11,243
1025		——		——	7	55 16,53	64 55 16,53		55 13,43		+ 3,10	11,247
1026		——	4	53 39,18		——	81 53 39,18		53 37,25		+ 1,93	11,265
1027		——	2	21 44,68	2	21 47,01	93 21 45,84		21 45,13		+ 0,71	11,292
1028		——	5	47 49,75		——	76 47 49,75		47 48,11		+ 1,64	11,303
1029		——	5	30 18,88		——	113 30 18,88		30 20,63		— 1,75	11,332
1030		——	3	26 24,91		——	93 26 24,91		26 23,41		+ 1,50	11,349
1031		——	5	18 14,79		——	65 18 14,79		18 13,24		+ 1,55	11,389
1032		——		——		——	148 ——		58 22,79		——	11,426
1033		——	5	13 24,52		——	75 13 24,52		14 15,13		+ 9,39	11,433
1034		——	4	21 33,72		——	65 21 33,72		21 28,61		+ 5,11	11,599
1035	3	20 34,63	5	20 36,02		——	71 20 35,50	20 36,93	20 34,94	—1,43	+ 0,56	11,630

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s	h. m. s.	s.	s.	s.	s.	s.
1036	5	Chamœl α		——		——		——	8 22 Invisible		43,88		——	—1,411
1037	6	33 Cancri η		——	7	59.06		——	8 22 59,07	58,98	58,77	+0,09	+0,30	+3,485
1038	6.7	34 Cancri h		——	6	31,25		——	8 23 31,26		30,57		+0,69	+3,271
1039	5	Piscis Vol η	7	30,88		——		——	8 23 30,88		30,28		+0,60	—0,441
1040	5	Piscis Vol β	6	53,46	2	53,38		——	8 23 53,43		44,93		+8,50	+0,686
1041	6	Monocerotis		——	5	58,17		——	8 23 58,16		57,48		+0,68	+2,696
1042	5	4 Ursæ Maj π^2	7	26,08	2	26,26		——	8 25 26,13		26,08		+0,05	+5,368
1043	5	Chamœl θ		——		——		——	8 25 Invisible		31,02		——	—1,566
1044	6	Hydræ		——	6	54.85		——	8 26 54,85		54,63		+0,22	+3,294
1045	7	36 Cancri e^1		——	5	58,67		——	8 27 58,67		58,53		+0,14	3,261
1046	4	4 Hydræ δ	11	45,32	6	45,60	9	45,55	8 28 45,46	45,48	45,00	—0,02	+0,46	3,185
1047	5	5 Hydræ σ	6	58,66	3	58,61	5	58,57	8 29 58,61		58,06		+0,55	3,141
1048	7	38 Cancri a		——	6	2,92		——	8 30 2,93		2,77		+0,16	3,462
1049	7	Cancri		——	4	11,97	1	11,86	8 30 11,96		11,41		+0,55	3,457
1050	6	39 Cancri		——	6	26,36	2	26,06	8 30 26,28		25,63		+0,65	3,466
1051	6	40 Cancri		——	2	31,30	2	31,25	8 30 31,29		31,17		+0,12	3,465
1052	7	Cancri		——	4	43.06		——	8 30 43,07		42,64		+0,43	3,459
1053	6	Pixid Naut η		——	5	41,83		——	8 30 41,82		41,50		+0,32	2,560
1054	6.7	41 Cancri ϵ		——		——	2	48,09	8 30 48,11		——		——	3,456
1055	6.7	Cancri		——	3	48,40	6	48,22	8 30 48,30		48,24		+0,06	3,456
1056	5	Arg in Vel e^1	8	44,32	6	44,51		——	8 31 44,40		44,37		+0,03	2,106
1057	5.6	46 Hydræ		——		——	6	4,05	8 32 4,05		3,52		+0,53	2,847
1058	7	Cancri		——		——	7	10,49	8 32 10,50		10,14		+0,36	3,461
1059	6	Pixid Naut ζ		——		——	5	44,38	8 32 44,37		44.03		+0,34	2,487
1060	5	43 Cancri γ	8	33,08	7	33,26	6	33,15	8 33 33,17	33,20	32,83	—0,03	+0,34	3,493
1061	5	Pixid Naut β	8	31,78		——	6	31,95	8 33 31,84		31,14		+0,70	2,342
1062	6.7	45 Cancri A^1		——	6	56 40		——	8 33 56,41		56.05		+0,36	3,315
1063	6	9 Hydræ		——	6	55,73		——	8 33 55,72		55,39		+0,33	2,781
1064	5	7 Hydræ η	8	26 53	1	26,49		——	8 34 26,53		26,16		+0,37	3,141
1065	5	Arg. in Vel b	6	3,32	6	3,27		——	8 35 3,28		3,28		0,00	1,987
1066	4.5	47 Cancri δ	5	7,75	2	7,64	6	7,81	8 35 7,78	7,78	7,35	0,00	+0,43	3,422
1067	4	Argus o	4	28,89	2	28,87		——	8 35 28,87		29,16		—0,29	1,721
1068	6.7	49 Cancri b		——	5	37,62		——	8 35 37,63		36,93		+0,70	3,264
1069	5.6	48 Cancri i		——	5	31,01		——	8 36 31,02		30,69		+0,33	3,659
1070	4,5	Pixid Naut α	6	50,85		——	5	50,85	8 36 50,84	50,92	50,65	—0,08	+0,19	2,406
1071	5	Arg in Car d		——	4	54,05		——	8 36 54,01		54,05		—0,04	1,334
1072	6	50 Cancri A^2	1	42,89	6	43,22		——	8 37 43,19		42,50		+0,69	3,301
1073	4	11 Hydræ ϵ	4	52,56	5	52,39	5	52,54	8 37 52,50	52,56	52,25	—0,06	+0,25	3,195
1074	6	12 Hydræ		——	6	26,52		——	8 38 26,52		25,88		+0,64	2,832
1075	6	Hydræ		——	6	43,70		——	8 38 43,70		44,02		—0,32	3,045
1076	5	13 Hydræ ρ	8	31,62	4	32,03		——	8 39 31,78		31,50		+0,28	3,184
1077	3	Argus δ	5	3,76	3	3,96	3	4,29	8 40 3,99		3,91		+0,01	1,655
1078	5	Arg in Vel a	9	20,01		——	6	20,31	8 40 20,13		20,06		+0,07	2,030
1079	5.6	14 Hydræ B		——	5	55,15		——	8 40 55,15		54,43		+0,72	3,018
1080	7	Cancri		——	6	9,01		——	8 41 9,01		8,53		+0,48	3,412

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	′	″
1036		——		——		——	166 Invisible		23 16,59		——	+11,694
1037		——	5	59 36,03		——	68 59 36,03	59 38,42	59 38,53	—2,39	— 2,50	11,700
1038		——	5	22 14,24		——	79 22 14,24		22 9,73		+ 4,51	11,738
1039	5	51 21,43		——		——	162 51 21,43		51 31,99		— 10,56	11,747
1040	6	34 37,42	5	34 34,91		——	155 34 36,28		34 28,14		+ 8,14	11,761
1041		——	5	0 53,91		——	109 0 53,91		0 52,28		+ 1,63	11,771
1042	3	5 45,19	4	5 44,25		——	25 5 44,65		5 42,01		+ 2,64	11,869
1043		——		——		——	166 Invisible		56 26,18		——	11,891
1044	1	47 54,77	5	47 54,87		——	82 47 54,85		47 50,95		+ 3,90	11,978
1045		——	4	45 55,28		——	79 45 55,28		45 58,16		— 2,88	12,053
1046	5	42 55,61	7	42 54,46	12	42 54,91	83 42 54,92	42 57,02	42 52,30	—2,10	+ 2,62	12,107
1047	5	4 26,02	3	4 28,59		——	86 4 26,98		4 25,13		+ 1,85	12,192
1048		——	5	38 10,12		——	69 38 10,12		38 9,13		+ 0,99	12,196
1049		——	5	52 4,43		——	69 52 4,43		52 20,43		— 16,00	12,206
1050		——	5	24 19,98		——	69 24 19,98		24 15,56		+ 4,42	12,223
1051		——	5	26 31,13		——	69 26 31,13		26 25,34		+ 5,79	12,229
1052		——	5	44 33,48		——	69 44 33,48		44 33,46		+ 0,02	12,242
1053		——		——	6	40 17,54	115 40 17,54		40 15,18		+ 2,36	12,243
1054		——		——	7	52 4,63	69 52 4,63		52 1,38		+ 3,25	12,247
1055		——		——		——	69 ——		51 59,80		——	12,249
1056	5	24 17,28	4	24 16,78		——	132 24 17,06		24 16,57		+ 0,49	12,317
1057		——	5	53 11,82		——	101 53 11,82		53 10,92		+ 0,90	12,337
1058		——	5	32 0,30		——	69 32 0,30		31 58,53		+ 1,77	12,343
1059		——	5	57 59,31		——	118 57 59,31		57 58,64		+ 0,67	12,384
1060	6	55 55,15		——	7	55 56,89	67 55 56,24	55 58,08	55 55,22	—1,84	+ 1,02	12,438
1061	5	43 2,49	6	43 0,47		——	124 43 1,39		42 57,86		+ 3,53	12,439
1062		——	5	43 19,16		——	76 43 19,16		43 18,18		+ 0,98	12,465
1063		——	5	20 42,85		——	105 20 42,85		20 35,14		+ 7,71	12,465
1064	5	0 13,51	5	0 12,45	10	0 12,43	86 0 12,71		0 12,36		+ 0,35	12,499
1065	6	3 16,47	5	3 17,97		——	136 3 17,15		3 13,63		+ 3,52	12,544
1066	5	14 0,06		——	4	14 1,06	71 14 0,51	14 0,73	14 0,00	—0,22	+ 0,51	12,546
1067	3	19 39,21	5	19 43,03		——	142 19 42,07		19 42,51		— 0,44	12,574
1068		——	5	18 57,19		——	79 18 57,19		18 54,57		+ 2,62	12,580
1069		——	5	37 54,67		——	60 37 54,67		37 51,97		+ 2,70	12,640
1070	5	35 4,82	4	35 2,63		——	122 35 3,85	35 4,83	35 6,29	—0,98	— 2,44	12,665
1071		——	4	9 45,47		——	149 9 45,47		9 53,30		— 7,83	12,671
1072		——	5	16 43,22		——	77 16 43,22		16 38,59		+ 4,63	12,722
1073		——	6	58 9,48		——	82 58 9,48	58 12,61	58 13,57	—3,13	— 4,09	12,733
1074	3	56 13,03	2	56 13,98		——	102 56 13,41		56 17,33		— 3,92	12,771
1075		——	5	17 9,64		——	91 17 9,64		17 10,61		— 0,97	12,791
1076	6	32 47,09	5	32 45,38		——	83 32 46,31		32 46,93		— 0,62	12,844
1077	6	5 44,49	4	5 41,25		——	144 5 43,05		5 51,99		— 8,94	12,884
1078	4	25 51,51	5	25 51,01		——	135 25 51,24		25 48,64		+ 2,60	12,901
1079		——	5	49 26,01		——	92 49 26,01		49 23,08		+ 2,93	12,937
1080		——	5	22 38,00		——	71 22 38,00		22 38,28		— 0,28	12,952

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s	h. m. s.	s.	s.	s.	s.	s.
1081	7	Cancri		——	4	10,90	1	10,67	8 41 10,88		10,89		—0,01	+3,428
1082	6.7	54 Cancri	1	39,60		——	5	39,78	8 41 39,76		38,98		+0,78	3,359
1083	6	55 Cancri ρ^2		——	5	34,57		——	8 42 34,58		34,21		+0,37	3,630
1084	6	Pixid Naut		——	4	0,04		——	8 43 0,03		59,33		+0,70	2,511
1085	6	Pixid Naut γ		——	5	24,32		——	8 43 24,31		24,42		—0,11	2,551
1086	7	Cancri	1	43,37	6	43,39		——	8 43 43,40		43,28		+0,12	3,396
1087	6	58 Cancri ρ^4		——	6	34,88		——	8 45 34,89		34,50		+0,39	3,614
1088	7	Cancri	1	54,44	5	54,64	2	54,63	8 45 54,63		54,33		+0,30	3,391
1089	4	16 Hydræ ζ	18	30,80	6	30,50	5	30,54	8 46 30,69	30,52	30,98	+0,17	—0,29	3,183
1090	6	60 Cancri α^1		——	6	44,66		——	8 46 44,67	44,74	44,50	—0,07	+0,17	3,285
1091	5	Chamœl η		——		——		——	8 46 Invisible		50,17		——	—1,767
1092	3.4	9 Ursæ Maj. ι	7	40,05	2	40,09	3	40,02	8 47 40,09	40,07	39,55	+0,02	+0,54	+4,131*
1093	6	62 Cancri o^1		——	4	52,35		——	8 47 52,36		51,74		+0,62	3,352
1094	6	63 Cancri o^2		——	5	11,96		——	8 48 11,97		11,07		+0,90	3,357
1095	6	Pixid Naut δ		——	4	19,42		——	8 48 19,40		18,63		+0,77	+2,562
1096	5	Chamœl		——		——		——	8 48 Invisible		43,79		——	—1,775
1097	5	65 Cancri κ^2	7	17,56	1	17,54	6	17,60	8 49 17,58	17,50	17,24	+0,08	+0,34	+3,287
1098	7	Cancri		——	5	40,93	1	40,52	8 49 40,87		40,63		+0,24	3,404
1099	4.5	Ursæ Maj. $\varkappa$	6	7,23	2	7,05	5	6,99	8 52 7,14	7,19	7,29	—0,05	—0,15	4,147
1100	6	69 Cancri ν	4	54,35	4	54,35		——	8 52 54,36		53,80		+0,56	3,525
1101	5	Arg. in car b^1	9	51,83	3	51,83		——	8 52 51,82		51,67		+0,15	1,474
1102	5	Arg. in car b^2	8	16,63		——	6	16,89	8 55 16,70		17,10		—0,40	1,498
1103	6	Lyncis	7	49,22		——	5	48,96	8 55 49,14		48,88		+0,26	3,851
1104	6	18 Hydræ ω	2	7,51	6	7,72		——	8 57 7,67		7,31		+0,36	3,165
1105	6	Arg. in Vel c	14	22,03	6	21,87		——	8 58 21,98		22,26		—0,28	2,068
1106	5.6	76 Cancri $\varkappa$		——	6	38 72		——	8 58 38,73	38,37	39,22	+0,36	—0,49	3,259
1107	6.7	75 Cancri		——	5	53,21		——	8 58 53,22		52,89		+0,33	3,559
1108	7	78 Cancri	1	36,61	6	36,77	3	36,63	8 59 36,73		36,03		+0,70	3,379
1109	5.6	77 Cancri ξ	2	41,36	5	41,36		——	8 59 41,36	41,26	41,14	+0,10	+0,22	3,465
1110	5	Piscis Vol α	7	46,71		——		——	8 59 46,71		46,25		+0,46	0,966
1111	6	79 Cancri		——	6	41,31		——	8 59 41,32		40,81		+0,51	3,462
1112	5.6	Pixid Naut		——	6	40,45		——	9 0 40,44		40,14		+0,30	2,625
1113	6	20 Hydræ L^2		——	4	22,91		——	9 1 22,91		22,35		+0,56	2,934
1114	3.4	Argus λ	10	49,71		——	2	49,32	9 1 49,64		49,47		+0,17	2,201
1115	6	Pixid Naut ε		——		——	5	49,68	9 2 49,66		49,34		+0,32	2,536
1116	6.7	81 Cancri π^1	1	5,45	7	5,56	3	5,46	9 3 5,52		5,38		+0,14	3,295*
1117	6	Cancri		——	5	0,78		——	9 4 0,80		0,39		+0,41	3,443
1118	5	18 Ursæ Maj. e	8	2,82	3	2,66		——	9 4 2,77		2,88		—0,11	4,380
1119	6	21 Hydræ K^1		——	5	8,08		——	9 4 8,08		7,61		+0,47	2,964
1120	5	Arg. in car G		——	5	39,65	4	39,50	9 4 39,47		38,51		+0,96	0,233
1121	4.5	22 Hydræ θ	10	37,36		——	6	37,32	9 5 37,35	37,19	37,03	+0,16	+0,32	3,117
1122	6	82 Cancri π^2	1	56,80	4	56,85	2	56,73	9 5 56,82		56,57		+0,25	3,326
1123	5	Arg. in car a	5	33,05		——	2	33,26	9 6 33,10		32,55		+0,55	1,584
1124	5	Arg. in car i	5	27,03		——	5	26,85	9 7 26,89		27,43		—0,54	1,376
1125	4	38 Lyncis p	8	22,00	1	22,00	2	21,92	9 8 22,00	22,07	21,45	—0,07	+0,55	3,767

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1081		——	4	32 50,09		——	70 32 50,09		32 47,36		+ 2,73	+ 12,955
1082		——	3	1 52,62		——	74 1 52,62		1 45,26		+ 7,36	12,986
1083		——	5	1 59,65		——	61 1 59,65		2 0,07		— 0,42	13,046
1084	2	50 25,01	3	50 26,88		——	118 50 26,13		50 29,71		— 3,58	13,077
1085	5	5 27,76	1	5 27,42		——	117 5 27,70		5 26,80		+ 0,90	13,104
1086		——	5	0 8,64		——	72 0 8,64		0 4,79		+ 3,85	13,123
1087		——	5	26 11,34		——	61 26 11,34		26 12,18		— 0,84	13,245
1088		——	5	8 6,02		——	72 8 6,02		8 3,90		+ 2,12	13,267
1089	5	25 10,11	11	25 11,17	13	25 9,78	83 25 10,37	25 12,61	25 9,81	—2,24	+ 0,56	13,307
1090		——	5	44 11,43		——	77 44 11,43	44 13,26	44 12,60	—1,83	— 1,17	13,322
1091		——		——		——	168 Invisible		21 9,78		——	13,339
1092	6	18 18,23	4	18 15,44	11	18 17,63	41 18 17,38	18 16,41	18 17,50	+0,97	— 0,12	13,380
1093		——	5	2 16,49		——	74 2 16,49		2 19,01		— 2,52	13,395
1094	3	46 42,08		——		——	73 46 42,08		46 46,97		— 4,89	13,416
1095	5	2 20,65	2	2 22,54		——	117 2 21,19		2 17,40		+ 3,79	13,426
1096		——		——		——	168 Invisible		27 15,74		——	13,462
1097	5	29 48,17	3	29 47,45	11	29 47,35	77 29 47,58	29 49,34	29 49,69	—1,76	— 2,11	13,487
1098	4	12 57,60	1	12 56,92		——	71 12 57,54		12 54,77		+ 2,77	13,512
1099	5	11 9,85	5	11 9,31	8	11 8,70	42 11 9,19	11 8,32	11 11,48	+0,87	— 2,29	13,668
1100	5	53 33,85		——		——	64 53 33,85		53 26,80		+ 7,05	13,719
1101	5	34 57,41	6	34 56,67		——	148 34 57,01		34 59,70		— 2,69	13,721
1102	4	26 31,64	5	26 32,29		——	148 26 32,00		26 37,91		— 5,91	13,875
1103	5	52 56,76	5	52 57,05		——	50 52 56,91		52 52,91		+ 4,00	13,903
1104	5	14 28,74		——		——	84 14 28,74		14 28,57		+ 0,17	13,987
1105	5	25 55,86	5	25 55,70		——	136 25 55,78		26 0,43		— 4,65	14,067
1106		——	6	39 34,39		——	78 39 34,39	39 38,06	39 39,50	—3,67	— 5,11	14,082
1107		——	5	40 50,69		——	62 40 50,69		40 51,76		— 1,07	14,096
1108		——	5	51 16,31		——	71 51 16,34		51 11,34		+ 4,97	14,141
1109	5	16 46,61		——		——	67 16 46,61	16 48,47	16 44,68	—1,86	+ 1,93	14,146
1110	5	43 38,07	5	43 33,15		——	155 43 35,61		43 38,21		— 2,60	14,156
1111		——	4	19 33,38		——	67 19 33,38		19 32,65		+ 0,73	14,207
1112		——		——		——	115 11 ——		11 3,78		——	14,208
1113		——	4	6 32,13		——	98 6 32,13		6 32,85		— 0,72	14,251
1114	5	45 27,36	5	45 28,03		——	132 45 27,79		45 28,98		+ 3,72	14,280
1115	5	41 3,51	2	41 3,55		——	119 41 3,52		40 59,77		+ 3,75	14,341
1116	1	19 56,79	4	19 55,04		——	74 19 55,39		19 47,95		+ 7,44	14,355
1117		——	5	1 43,21		——	68 1 43,21		1 42,16		+ 1,05	14,411
1118	5	17 31,26	6	17 31,35		——	35 17 31,30		17 27,17		+ 4,13	14,412
1119	1	25 33,32	4	25 32,53		——	96 25 32,69		25 28,63		+ 4,06	14,419
1120	5	55 37,78	5	55 37,28		——	161 55 37,53		55 41,61		— 4,08	14,456
1121	5	58 54,01	6	58 52,81	8	58 53,89	86 58 53,58	58 52,50	58 52,25	+1,08	+ 1,33	14,509
1122		——	5	21 59,09		——	74 21 59,09		21 53,71		+ 5,38	14,528
1123	5	16 50,61		——	5	16 49,07	148 16 49,84		17 6,50		— 16,66	14,568
1124	4	37 42,60	4	37 42,89		——	151 37 42,74		37 52,91		— 10,17	14,623
1125	5	29 30,43	2	29 30,01	6	29 30,35	52 29 30,33	29 30,27	29 24,00	+0,06	+ 6,33	14,672

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1126	6	23 Hydræ K^2	——	6 21,19	——	9 8 21,19		20,90		+0,29	+2,978
1127	6	24 Hydræ	——	5 27,18	——	9 8 27,18		27,53		—0,35	2,940
1128	7	Leonis	——	6 44,06	——	9 8 44,07		43,71		+0,36	3,265
1129	5	Arg. in vel l	6 59,80	6 60,07	——	9 8 59,92		59,64		+0,28	2,363
1130	6	83 Cancri q	——	6 35,74	2 35,66	9 9 35,73		35,48		+0,25	3,369
1131	4.5	40 Lyncis r	7 47,99	——	6 47,84	9 10 47,94	48,13	47,89	—0,19	+0,05	3,701
1132	7	Leonis	——	5 23,39	——	9 11 23,41		25,09		—1,68	3,523
1133	2	Argus β	4 19,45	1 19,80	7 19,73	9 11 19,59		20,46		—0,87	0,729
1134	5.6	26 Hydræ M^2	——	5 41,07	——	9 11 41,07		40,54		+0.53	2,890
1135	5	Draconis	——	2 26,26	5 25,55	9 12 26,46		29,24		—2,78	9,478
1136	5.6	27 Hydræ	——	——	5 16,98	9 12 16,98		16,63		+0,35	2,929
1137	2	Argus ι	5 35,64	1 36,16	6 36,01	9 12 35,81		33,88		+1,93	1,609
1138	5	Pixid Naut θ	10 3,75	4 3,69	——	9 14 3,73		3,34		+0,39	2,650
1139	7	Hydræ	——	6 49,98	——	9 14 49,98		49,25		+0,73	3,160
1140	5	1 Leonis $\varkappa$	9 51,40	1 51,49	——	9 14 51,41		51,25		+0,16	3,516
1141	7	Leonis	——	6 17,46	——	9 15 17,47		17,94		—0,47	3,397
1142	5.6	Pixid Naut λ	——	5 56,52	——	9 15 56,50		56,32		+0,18	2,599
1143	7	Leonis	——	6 13,16	——	9 16 13,17		13,12		+0,05	3,341
1144	3	Argus $\varkappa$	6 55,04	——	4 55,23	9 16 55,09		55,01		+0,08	1,854
1145	6	28 Hydræ A	——	5 0,21	——	9 17 0,21		59,37		+0,84	3,001
1146	4	23 Ursæ Maj h	8 11,57	——	3 11,43	9 18 11,56	11,74	10,80	—0,18	+0,76	4,831
1147	2	30 Hydræ α	15 19,91	26 19,97	50 20,08	9 19 20,01	19,97	19,59	+0,04	+0,42	2,948
1148	5	24 Ursæ Maj d	5 28,50	——	5 27,30	9 19 28,00		29,37		—1,37	5,512
1149	6.7	2 Leonis ω	——	4 27,32	——	9 19 27,33	27,38	26,60	—0,05	+0,73	3,217
1150	6.7	3 Leonis	——	7 32,18	——	9 19 32,18		31,76		+0,42	3,203
1151	5.6	31 Hydræ τ^1	——	6 37,41	——	9 20 37,41		36,59		+0,82	3,038
1152	3	25 Ursæ Maj θ	5 34,44	2 34,45	——	9 21 34,46	34,58	33,90	—0,12	+0,56	4,057*
1153	4.5	4 Leonis λ	5 7,62	——	6 7,43	9 22 7,52	7,45	7,29	+0,07	+0,23	3,441
1154	5	5 Leonis ξ	2 53,06	4 53,04	6 53,04	9 22 53,05	53,09	52,98	—0,04	+0,07	3,249
1155	6	6 Leonis h	——	6 56,90	——	9 22 56,90		55,95		+0,95	3,224
1156	5	Arg. in car n	4 5,21	1 5,28	4 5,70	9 23 5,33		8,36		—3,03	1,320
1157	6	32 Hydræ τ^2	1 24,68	6 25,11	——	9 23 25,05		24,82		+0,23	3,062
1158	5	10 Leonis Min b	——	3 54,43	6 54,38	9 23 54,45	54,54	54,48	—0,09	—0,03	3,706
1159	4.5	Argus ψ	4 5,99	1 5,72	5 5,61	9 24 5,75		5,71		+0,04	2,369
1160	5	Arg. in vel N	8 7,42	3 7,29	——	9 26 7,36		5,86		+1,50	1,822
1161	6	33 Hydræ	——	5 9,81	——	9 26 9,81		9,14		+0,67	2,993
1162	6.7	7 Leonis	2 41,49	6 41,55	1 41,41	9 26 41,55		41,19		+0,36	3,292
1163	6.7	8 Leonis	——	7 45,97	1 45,99	9 27 45,99		45,61		+0,38	3,323
1164	7	9 Leonis	——	6 12,34	——	9 28 12,36		11,65		+0,71	3,459
1165	5.6	10 Leonis	——	6 20,34	——	9 28 20,34	20,27	19,67	+0,07	+0,67	3,178
1166	7	11 Leonis	——	5 50,70	——	9 28 50,71		50,50		+0,21	3,289
1167	5	Arg. in car h	10 34,61	——	2 34,74	9 29 34,62		34,62		—0,00	1,738
1168	5.6	2 Sextantis b	——	6 41,34	——	9 29 41,34		41,02		+0,32	3,145
1169	5	35 Hydræ s	10 16,71	——	3 16,46	9 31 16,70		16,03		+0,67	3,063
1170	6	13 Leonis	——	6 57,64	——	9 31 57,65		57,28		+0,37	3,473

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1126	3	39 24,41	2	39 23,96		——	95 39 24,23		39 21,45		+ 2,78	+14,673
1127		——	5	2 49,17		——	98 2 49,17		2 48,17		+ 1,00	14,680
1128		——	5	47 56,20		——	77 47 56,20		47 57,32		— 1,12	14,695
1129	4	52 23,13		——		——	127 52 23,13		52 28,79		— 5,66	14,713
1130		——	5	35 13,37		——	71 35 13,37		35 9,65		+ 3,72	14,746
1131	5	54 13,75	3	54 13,00	7	54 11,93	54 54 12,75	54 8,31	54 5,01	+4,44	+ 7,74	14,817
1132		——	5	7 22,29		——	64 7 22,29		——		——	14,854
1133	5	1 29,66		——		——	159 1 29,66		1 45,81		— 16,15	14,855
1134		——	5	16 11,12		——	101 16 11,12		16 7,61		+ 3,51	14,870
1135		——		——	7	56 27,48	7 56 27,48		56 34,30		— 6,82	14,904
1136		——	5	50 48,06		——	98 50 48,06		50 42,96		+ 5,10	14,905
1137	2	34 20,50	5	34 19,78		——	148 34 19,98		34 24,37		— 4,39	14,924
1138	5	15 18,89	2	15 16,58		——	115 15 18,20		15 19,17		— 0,97	15,009
1139	2	3 52,39	3	3 51,69		——	84 3 51,97		3 53,14		— 1,17	15,052
1140		——	8	5 55,70	2	5 54,97	63 5 55,55		5 56,45		— 0,90	15,054
1141		——	3	29 33,58		——	69 29 33,58		29 17,26		+ 16,32	15,080
1142		——	5	7 5,24		——	118 7 5,24		7 8,68		— 3,44	15,118
1143		——	5	41 38,47		——	72 41 38,47		41 38,04		+ 0,43	15,133
1144	5	17 45,69	2	17 47,57		——	144 17 46,23		17 51,37		— 5,14	15,175
1145		——	5	23 50,75		——	94 23 50,75		23 45,13		+ 5,62	15,177
1146	7	12 37,72	2	12 35,01		——	26 12 37,12	12 37,52	12 32,93	—0,40	+ 4,19	15,242
1147	10	56 1,76	42	56 0,43	66	56 0,78	97 56 0,74	56 3,26	56 1,40	—2,52	— 0,66	15,310
1148	5	26 21,25		——		——	19 26 21,24		26 19,20		+ 2,04	15,314
1149		——	5	13 1,08		——	80 13 1,08	12 57,35	12 52,12	+3,73	+ 8,96	15,316
1150		——	5	5 0,60		——	81 5 0,60		4 53,85		+ 6,75	15,321
1151		——	5	2 20,05		——	92 2 20,05		2 15,48		+ 4,57	15,382
1152	3	33 41,97	5	33 43,11		——	37 33 42,66	33 44,37	33 46,31	—1,71	— 3,65	16,034*
1153	2	17 44,73	5	17 41,89		——	66 17 42,69	17 44,76	17 40,55	—2,07	— 2,14	15,466
1154	1	57 35,18	6	57 35,40	7	57 33,68	77 57 34,52	57 36,06	57 33,61	—1,54	+ 0,91	15,508
1155	2	32 53,36	3	32 54,10		——	79 32 53,80		32 48,58		+ 5,22	15,511
1156	2	12 11,20	3	12 12,16		——	154 12 11,78		12 19,17		— 7,39	15,526
1157		——	6	26 54,90		——	90 26 54,90		26 51,91		+ 2,99	15,538
1158	5	51 38,91		——	5	51 39,12	52 51 39,01	51 41,68	51 35,48	—2,57	+ 3,53	15,564
1159	5	44 8,98	3	44 7,30		——	129 44 8,35		44 7,51		+ 0,84	15,577
1160	9	17 45,43	4	17 44,49		——	146 17 45,15		17 48,45		— 3,30	15,687
1161	1	10 14,20	4	10 12,54		——	95 10 12,87		10 4,91		+ 7,96	15,688
1162	1	52 32,55	4	52 32,59		——	74 52 32,58		52 25,78		+ 6,80	15,717
1163		——	5	48 46,88		——	72 48 46,88		48 44,52		+ 2,36	15,775
1164		——	5	34 48,31		——	64 34 48,31		34 43,99		+ 4,32	15,798
1165	2	24 55,71	3	24 52,97		——	82 24 54,14	24 53,79	24 50,79	+0,35	+ 3,35	15,806
1166		——	5	53 54,57		——	74 53 54,57		53 50,49		+ 4,08	15,833
1167	5	28 56,13	3	28 56,38		——	148 28 56,22		29 2,97		— 6,75	15,875
1168	5	35 48,42	1	35 47,76		——	84 35 48,31		35 44,06		+ 4,25	15,878
1169	5	23 7,11		——	7	23 4,97	90 23 5,99		23 1,36		+ 4,63	15,963
1170	3	19 31,99	2	19 33,54		——	63 19 32,61		19 37,97		— 5,36	15,998

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s	h. m. s.	s.	s.	s.	s.	s.
1171	4	14 Leonis o	8	10,66	4	10,71	6	10,78	9 52 10,72	10,73	10,18	—0,01	+0,54	+3,219
1172	5	38 Hydræ κ	5	15,34		——	6	15,42	9 52 15,38		15,21		+0,17	2,874
1173	7	Leonis		——	5	57,64	2	57,52	9 53 57,62		56,87		+0,75	3,373
1174	6	16 Leonis ψ	3	34,50	4	34,56		——	9 54 34,53		34,28		+0,25	3,277
1175	3	17 Leonis ε	14	18,06	2	18,12	14	18,12	9 56 18,11	18,21	17,73	—0,10	+0,38	3,426
1176	6	Antl. Pneum θ		——	5	43,14		——	9 56 43,12		42,95		+0,17	2,669
1177	6	18 Leonis		——	5	19,90		——	9 57 19,91		19,57		+0,34	3,242
1178	7	19 Leonis		——	6	23,71		——	9 58 23,72		23,34		+0,38	3,238
1179	4.5	29 Ursæ Maj. υ	10	58,46	1	58,35	5	58,16	9 58 58,40	58,46	59,06	—0,06	—0,66	4,356*
1180	7	20 Leonis	2	25,18	4	25,25	1	24,90	9 40 25,19		25,00		+0,19	3,377
1181	5	30 Ursæ Maj. Φ	7	37,13		——	6	37,07	9 40 37,15		37,79		—0,64	4,153
1182	5	Arg. in car l	5	37,67		——	6	38,39	9 40 38,00		36,40		+1,60	1,648
1183	6	4 Sextantis s		——	5	45,50		——	9 41 45,50		43,59		+1,91	3,136
1184	6	22 Leonis g		——	5	19,96		——	9 42 19,97		19,14		+0,83	3,424
1185	6	6 Sextantis t		——	6	46,11		——	9 42 46,11		45,86		+0,25	3,023
1186	3.4	Argus υ	5	54,01	1	54,31	2	54,34	9 42 54,08		54,07		+0,01	1,505
1187	3	24 Leonis μ	6	11,59		——	6	11,59	9 43 11,60	11,77	11,02	—0,17	+0,58	3,448
1188	5	39 Hydræ υ^1	6	24,04		——	4	24,10	9 43 24,06		24,09		—0,03	2,880
1189	7	7 Sexantis A		——	6	32,14		——	9 43 32,14		31,80		+0,34	3,111
1190	6	8 Sextantis d		——	6	11,54		——	9 44 11,54		11,43		+0,11	2,972
1191	7	9 Sextantis		——	6	19,73		——	9 45 19,73		19,30		+0,43	3,143
1192	6	10 Sextantis		——	6	31,35		——	9 47 31,35		31,32		+0,03	3,193
1193	5.6	27 Leonis ν		——	8	10,76	1	10,87	9 49 10,78	10,77	10,44	+0,01	+0,34	3,238
1194	6	11 Sextantis		——	6	13,33		——	9 49 13,33		12,90		+0,43	3,184
1195	6.7	Sextantis		——	6	0,06		——	9 51 0,06		59,92		+0,14	3,120
1196	4	Argus Φ	5	58,78	2	58,90	6	58,58	9 50 58,63		58,59		+0,04	2,095
1197	4.5	29 Leonis π	7	19,77		——	6	19,83	9 51 19,81	19,90	19,68	—0,09	+0,13	3,179
1198	6.7	Leonis		——	6	26,12		——	9 53 26,13		25,97		+0,16	3,362
1199	6	Hydræ		——	6	24,80		——	9 51 24,80		24,64		+0,16	2,914
1200	7	Leonis		——	8	8,36	1	8,20	9 55 8,35		7,92		+0,43	3,221
1201	7	13 Sextantis e		——	5	26,15		——	9 55 26,15		25,63		+0,52	3,117
1202	7	Leonis	1	33,46	6	33,50		——	9 56 33,50		33,27		+0,23	3,272
1203	5.6	40 Hydræ υ^2		——	3	56,85		——	9 56 56,84		56,70		+0,14	2,920
1204	5	21 Leonis Min d	10	30,12		——	2	29,54	9 57 30,03		29,56		+0,47	3,564
1305	6	14 Sextantis C		——	2	0,14		——	9 58 0,14		59,47		+0,67	3,145
1206	3.4	30 Leonis η	8	10,08	3	10,15	2	9,92	9 58 10,07	9,93	9,52	+0,14	+0,55	3,283
1207	5	31 Leonis A	5	59,20	3	59,04	4	59,02	9 58 59,11	58,99	58,74	+0,12	+0,37	3,197
1208	5	15 Sextantis f	2	20,19	4	20,34	6	20,38	9 59 20,33		21,82		—1,49	3,073
1209	1	32 Leonis α	7	25,19	36	25,08	40	25,09	9 59 25,11	25,14	21,73	—0,03	+0,38	3,221
1210	6	16 Sextantis		——	6	26,52		——	10 0 26,53		25,83		+0,70	3,150
1211	6	17 Sextantis g^1		——		——	4	46,85	10 1 46,85		46,99		—0,14	2,980
1212	4.5	41 Hydræ λ^2	11	24,06	3	24,26		——	10 2 24,09	24,13	28,60	+0,04	+0,49	2,934
1213	6	18 Sextantis g^2		——		——	6	34,86	10 2 34,86		34,66		+0,20	2,981
1214	6	34 Leonis		——	6	35,80		——	10 2 35,82		35,23		+0,59	3,233
1215	6	Sextantis		——	6	54,51		——	10 2 54,51		——		——	2,994

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1171	7	20 51,93	1	20 50,18	13	20 51,60	79 20 51,64	20 50,14	20 48,11	+1,50	+ 3,53	+16,010
1172	5	34 22,51	3	34 19,27		——	103 34 21,30		34 25,77		— 4,47	16,015
1173	1	2 32,74	4	2 31,78		——	69 2 31,98		2 34,01		— 2,03	16,103
1174	5	12 52,03		——		——	75 12 52,03		12 49,76		+ 2,27	16,135
1175	9	27 24,28	10	27 23,33	10	27 22,59	65 27 23,40	27 22,44	27 19,47	+0,96	+ 3,93	16,224
1176	5	0 11,81		——		——	117 0 11,81		0 10,91		+ 0,90	16,247
1177		——	5	25 10,80		——	77 25 10,80		25 5,51		+ 5,29	16,277
1178	2	39 27,39	3	39 29,62		——	77 39 28,73		39 29,21		— 0,48	16,331
1179	5	10 40,08	3	10 38,27	5	10 38,62	30 10 39,10	10 34,06	10 37,42	+5,04	+ 1,68	16,359
1180	1	2 25,16	4	2 26,84		——	68 2 26,51		2 29,90		— 3,39	16,433
1181	7	9 24,15		——	5	9 24 11	35 9 24,14		9 22,00		+ 2,14	16,443
1182	5	44 4,62		——	6	44 3,35	151 44 4,03		44 8,53		+ 4,50	16,416
1183		——	5	52 29,47		——	84 52 29,47		52 15,19		+ 14,28	16,499
1184	3	48 50,35	2	48 52,98		——	64 48 51,40		48 47,85		+ 3,55	16,528
1185	2	27 31,81	3	27 32,17		——	93 27 32,03		27 30,18		+ 1,85	16,550
1186	6	17 40,52		——		——	154 17 40,52		17 38,42		+ 2,10	16,560
1187	5	12 19,22	5	12 18,06	11	12 19,03	63 12 18,84	12 21,52	12 19,23	—2,68	— 0,39	16,570
1188	5	3 40,14	1	3 39,70		——	104 3 40,07		3 37,85		+ 2,22	16,582
1189		——	5	45 57,33		——	86 45 57,33		45 54,61		+ 1,72	16,588
1190		——	5	19 1,68		——	97 19 1,68		19 4,70		— 3,02	16,621
1191		——	5	16 1,08		——	84 16 1,08		15 55,08		+ 6,00	16,675
1192	1	16 32,56	4	16 30,36		——	80 16 30,80		16 21,89		+ 8,91	16,781
1193	3	45 26,72	2	45 26,10		——	76 45 26,47	45 26,75	45 21,55	—0,28	+ 4,92	16,860
1194	5	53 16,96	5	53 16,37		——	80 53 16,67		53 14,08		+ 2,59	16,862
1195		——		——		——	85 48 ——		48 54,70		——	16,946
1196	5	46 12,74	1	46 9,72	5	46 10,04	143 46 11,23		46 16,53		— 5,30	16,946
1197	5	9 12,76		——	5	9 12,15	81 9 12,45	9 11,49	9 9,61	+0,96	+ 2,84	16,961
1198		——	5	14 37,26		——	67 14 37,26		14 36,64		+ 0,62	17,058
1199	1	29 23,21	3	29 22,71		——	102 29 22,83		29 24,85		— 2,02	17,103
1200		——	5	33 42,34		——	77 33 42,34		33 41,68		+ 0,66	17,136
1201		——	5	59 4,70		——	85 59 4,70		59 3,90		+ 0,80	17,149
1202		——	5	25 42,44		——	73 25 42,44		25 42,23		+ 0,21	17,200
1203		——	5	15 10,82		——	102 15 10,82		15 6,14		+ 4,68	17,218
1204	3	56 24,50	2	56 23,06		——	53 56 23,93		56 22,11		+ 1,82	17,241
1205		——	5	37 18,20		——	83 37 18,20		34 17,25		+ 0,95	17,264
1206	1	25 17,04	4	25 14,36	2	25 14,83	72 25 14,87	25 17,44	25 16,64	—2,57	— 1,77	17,271
1207	4	10 55,15		——		——	79 10 55,15	10 55,67	10 53,15	—0,52	+ 2,00	17,308
1208		——		——	3	33 15,61	89 33 15,61		33 11,33		+ 4,28	17,325
1209	10	12 55,92	52	12 53,08	56	12 54,05	77 12 53,78	12 52,46	12 49,82	+1,32	+ 3,96	17,327
1210	5	0 28,81		——		——	83 0 28,81		0 27,01		+ 1,80	17,372
1211	1	34 58,25	8	35 7,91		——	97 34 58,25		35 0,90		— 2,65	17,431
1212	5	31 35,70	2	31 36,25		——	101 31 35,86	31 37,00	31 33,81	—1,14	+ 2,05	17,457
1213	1	35 23,03		——		——	97 35 23,03		35 24,94		— 1,91	17,465
1214		——	5	49 8,36		——	75 49 8,36		——		——	17,465
1215		——	5	29 28,57		——	96 29 28,57		29 24,44		+ 4,13	17,478

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1216	7	19 Sextantis		——	7	3,74		——	10 4 3,74		3,24		+0,50	+3,130
1217	7	Leonis		——	6	14,33		——	10 5 14,35		14,23		+0,12	3,328
1218	6	21 Sextantis	5	46,18		——		——	10 5 46,18		46,12		+0,06	2,988
1219	3.4	33 Ursæ Maj. λ	9	55,97	5	56,09		——	10 6 56,02	56,12	55,91	—0,10	+0,11	3,675
1220	6	Leonis		——	5	6,58	1	6,57	10 7 6,60		5,84		+0,76	3,281
1221	4.5	36 Leonis ζ	6	20,00		——	13	20,02	10 7 20,03	20,02	19,67	+0,01	+0,36	3,353
1222	6	37 Leonis		——	5	39,24	1	39,16	10 7 39,24		39,29		—0,05	3,232
1223	4	Arg. in vel q	9	42,10		——	3	41,77	10 7 42,01		42,11		—0,10	2,516
1224	6	22 Sextantis z		——	6	17,06		——	10 9 17,06		16,99		+0,07	2,989
1225	4.5	Argus ω	6	44,34		——	2	44,41	10 9 44,31		43,72		+0,59	1,440
1226	6	Antl. Pneum		——	6	26,20		——	10 10 26,18		25,83		+0,35	2,739
1227	6	40 Leonis		——	6	35,02		——	10 10 35,04		34,57		+0,47	3,296
1228	2	41 Leonis γ	6	41,99	4	41,93	16	42,05	10 10 42,03	41,96	41,61	+0,07	+0,42	3,300
1229	5	Arg. in car q	4	29,23	2	28,93	6	29,43	10 11 29,22		27,62		+1,60	1,991
1230	3	34 Ursæ Maj μ	7	17,48		——	6	17,31	10 12 17,44	17,53	17,43	—0,09	+0,01	3,620
1231	6	23 Sextantis h		——	7	21,49		——	10 12 21,49		21,44		+0,05	3,101
1232	6	42 Leonis	3	47,78	3	47,87		——	10 12 47,83		47,52		+0,31	3,239
1233	6	43 Leonis z		——		——		——	10 14 ——		12,73		——	3,145
1234	5	Arg. in vel T	8	40,67	5	40,77		——	10 14 40,69		38,89		+1,80	2,215
1235	4.5	Arg. in vel r	6	8,14		——	5	8,18	10 15 8,13		8,17		—0,04	2,558
1236	4.5	30 Leonis Min f	6	15,89		——	4	15,57	10 16 15,79	15,91	14,90	—0,12	+0,89	3,473
1237	6	44 Leonis b1	1	23,92	6	23,88		——	10 16 23,89		23,49		+0,40	3,167
1238	4	42 Hydræ μ	7	58,36		——	4	58,28	10 17 58,32	58,31	57,66	+0,01	+0,66	2,903
1239	6	26 Sextantis i		——	5	2,66		——	10 18 2,66		2,12		+0,54	3,067
1240	4.5	31 Leonis Min g	5	8,76		——	6	8,65	10 18 8,74	8,82	7,33	—0,08	+1,41	3,511
1241	6	27 Sextantis	2	17,90	5	17,75		——	10 18 17,79		17,62		+0,17	3,033
1242	6	45 Leonis		——	6	46,41		——	10 18 46,43		46,14		+0,29	3,175
1243	4.5	Antl. Pneum α	4	28,54		——	6	28,61	10 19 28,56	28,48	28,61	+0,08	—0,05	2,737
1244	5	36 Ursæ Maj	6	49,10	4	49,18	2	49,01	10 19 49,15	49,07	50,16	+0,08	—1,01	3,935
1245	6	Sextantis q	2	13,10	4	13,42		——	10 20 13,31		13,83		—0,52	3,040
1246	6	28 Sextantis k		——	5	56,05		——	10 20 56,05		56,32		—0,27	3,050
1247	5	Arg. in car I		——	6	3,03		——	10 21 2,91		0,76		+2,15	1,218
1248	6	30 Sextantis l		——	5	42,34		——	10 21 42,34		42,02		+0,32	3,070
1249	5.6	Antl. Pneum		——		——	6	44,09	10 21 44,05		43,85		+0,20	2,762
1250	7	31 Sextantis u		——		——	6	50,26	10 21 50,26		49,45		+0,81	3,097
1251	6	Antl. Pneum δ		——		——	6	52,04	10 21 52,00		51,76		+0,24	2,751
1252	6	46 Leonis i	1	13,23	5	13,32		——	10 23 13,31		13,37		—0,06	3,215
1253	7	32 Sextantis x		——	6	34,84		——	10 23 34,84		34,29		+0,55	3,121
1254	4	47 Leonis ρ	14	57,63	4	57,74	5	57,71	10 23 57,67	57,61	57,47	+0,06	+0,20	3,166
1255	5	37 Ursæ Maj. m	5	16,72		——	5	16,61	10 24 16,73	16,96	16,71	—0,23	+0,02	3,935
1256	5.6	48 Leonis	5	2,02	2	2,22		——	10 26 2,08	1,94	1,56	+0,14	+0,52	3,141
1257	6	44 Hydræ n		——	5	2,10		——	10 26 2,08		1,61		+0,47	2,843
1258	4	Arg. in car p	7	4,24		——	4	4,08	10 26 4,15		4,79		—0,64	2,114
1259	6	49 Leonis		——	6	13,31		——	10 26 13,31		12,76		+0,55	3,157
1260	6	1 Hyd & Crat		——	6	4,92		——	10 28 4,90		4,70		+0,20	2,924

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1216		——	4	33 30,96		——	84 33 30,96		33 24,97		+ 5,99	+17,528
1217		——	5	59 53,40		——	67 59 53,40		0 0,85		— 7,45	17,577
1218	3	9 47,07	2	9 45,91		——	97 9 46,61		9 38,96		+ 7,65	17,600
1219	6	15 1,46	13	14 59,91	8	14 59,02	46 14 59,99	15 0,90	15 1,36	−0,91	— 1,37	17,647
1220		——	5	25 34,66		——	71 25 34,66		25 33,47		+ 1,19	17,655
1221	6	44 55,96		——	7	44 56,44	65 44 56,22	44 58,76	44 49,87	−2,54	+ 6,35	17,664
1222	2	26 14,31	3	26 15,12		——	75 26 14,80		26 11,71		+ 3,09	17,678
1223	5	17 32,76		——	5	17 29,02	131 17 30,89		17 25,05		+ 5,84	17,681
1224		——	5	13 57,59		——	97 13 57,59		13 55,34		+ 2,25	17,745
1225	5	12 16,09		——		——	159 12 16,09		12 28,09		— 12,00	17,765
1226		——	5	9 14,40		——	118 9 14,40		9 14,54		— 0,14	17,792
1227		——	5	40 49,26		——	69 40 49,26		40 41,10		+ 8,16	17,797
1228	6	18 42,29	11	18 40,07	8	18 41,35	69 18 41,00	18 41,80	18 40,22	−0,80	+ 0,78	17,802
1229	4	29 41,48		——	4	29 43,23	150 29 42,35		29 47,65		— 5,30	17,834
1230	5	39 31,21		——	6	39 30,46	47 39 30,80	39 33,02	39 28,95	−2,22	+ 1,85	17,865
1231		——	5	52 6,27		——	86 52 6,27		51 58,48		+ 7,79	17,868
1232	2	10 45,57	5	10 47,80		——	74 10 47,16		10 41,83		+ 5,33	17,885
1233		——	5	36 25,47		——	82 36 25,47		36 23,56		+ 1,91	17,941
1234	5	12 1,78		——	5	12 0,22	145 12 1,00		11 58,62		+ 2,38	17,959
1235	5	48 26,43		——	6	48 26,19	130 48 26,30		48 22,69		+ 3.61	17,978
1236	4	21 4,12	13	21 7,28	8	21 7,04	55 21 6,70	21 4,01	21 3,29	+2,69	+ 3,41	18,019
1237	1	21 51,24	4	21 54,48		——	80 21 53,83		21 47,43		+ 6,40	18,025
1238	5	58 53,03		——	5	58 52,49	105 58 52,76	58 52,34	58 50,37	+0,42	+ 2,39	18,085
1239		——	5	8 15,18		——	90 8 15,18		8 10,55		+ 4,63	18,088
1240	5	26 5,86		——	5	26 5,55	52 26 5,71	26 4,77	26 3,63	+0,94	+ 2,08	18,090
1241		——	5	32 6,04		——	93 32 6,04		32 7,13		— 1,09	18,097
1242		——	5	23 1,81		——	79 23 1,81		22 59,59		+ 2,22	18,115
1243	5	12 56,66	2	12 55,37	5	12 55,38	120 12 55,91	12 51,67	12 52,02	+4.24	+ 3,80	18,142
1244	5	9 37,73		——	8	9 38,45	33 9 38,17	9 41,63	9 37,66	−3,46	+ 0,51	18,154
1245		——	4	53 5,40		——	92 53 5,40		——		——	18,170
1246		——	5	52 53,75		——	91 52 53,75		52 52,37		+ 1,38	18,196
1247	4	10 37,87		——		——	163 10 37,87		11 5,40		— 27,53	18,201
1248	3	46 41,76	2	46 43,82		——	89 46 42,58		46 35,24		+ 7,34	18,223
1249		——	5	48 21,67		——	118 48 21,67		48 22,48		— 0,81	18,225
1250		——	5	59 23,80		——	86 59 23,80		59 17,40		+ 6,40	18,228
1251		——	5	44 59,59		——	119 44 59,59		44 56,94		+ 2,65	18,230
1252		——	4	0 14,48		——	75 0 14,48		0 8,25		+ 6,23	18,278
1253		——	4	29 44,96		——	84 29 44,96		29 38,16		+ 6.80	18,291
1254	5	49 58,31		——	5	49 57,31	79 49 57,81	49 52,80	49 50,25	+5,01	+ 7,56	18,305
1255	5	3 20,46		——	6	3 19,81	32 3 20,10	3 20,02	3 18,08	+0,08	+ 2,02	18,315
1256		——	5	11 3,32		——	82 11 3,32	11 2,30	10 59,69	+1,02	+ 2,63	18,378
1257		——	5	52 51,15		——	112 52 51,15		52 51,16		— 0,01	18,378
1258	6	49 21,96	6	49 21,53		——	150 49 21,74		49 24,98		— 3,24	18,384
1259		——	4	29 4,64		——	80 29 4,64		28 58,00		+ 6,64	18,384
1260	3	28 37,07	2	28 37,61		——	105 28 37,29		28 30,97		+ 6,32	18,449

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s	h. m. s.	s.	s.	s.	s.	s.
1261	4	37 Leonis Min *l*	9	14,74	1	14,89	3	14,83	10 29 14,79	14,86	14,58	—0,07	+0,21	+3,401
1262	6	Antl. Pneum		——	5	21,20		——	10 29 21,17		21,14		+0,03	2,811
1263	6.7	50 Leonis		——	4	53,45	1	53,47	10 29 53,48		53,26		+0,22	3,225
1264	5	Arg in vel *p*	6	15 96		——	6	15,62	10 30 15,75		15,79		—0,04	2,514
1265	5	2 Hyd & Crat Φ^3	7	24,15		——	4	24,27	10 30 24,19		24,27		—0,08	2,922
1266	5	Ursæ Maj.	1	54,76	3	54,98	5	54,44	10 30 54,61		54,89		—0,28	4,459
1267	6	33 Sextantis *m*		——	6	51,63		——	10 32 51,63		50,95		+0,68	3,061
1268	5	Chamœl *γ*		——		——		——	10 33 Invisible		23,66		——	0,801
1269	5 6	40 Leonis Min	5	47,60	2	47.48		——	10 33 47,57		47,01		+0,56	3,321
1270	6	34 Sextantis	1	57,34	6	56,98		——	10 33 57,03		55,33		+1,70	3,106
1271	5.6	41 Leonis Min *m*		——	6	16,22		——	10 34 16,24		15,53		+0,71	3,287
1272	7	35 Sextantis		——	5	37,36		——	10 34 37,36		36,99		+0,37	3,116
1273	5	Argus θ^1	5	18,18		——	3	17,90	10 36 18,00		15,97		+2,03	2,106
1274	4 5	42 Leonis Min *n*	8	30,30	1	30,54	3	30,35	10 36 30,34	30,37	29,64	—0,03	+0,70	3,361
1275	6	36 Sextantis *n*		——	4	30,39		——	10 36 30,39		29,61		+0,78	3,096
1276	2.3	Argus θ^2	15	58,96		——	3	59,41	10 36 59,02		57,15		+1,87	2,117
1277	6	37 Sextantis o^1	1	21,07	6	20,85	2	20,58	10 37 20,82	20,60	20,04	+0,22	+0,78	3,128
1278	6	51 Leonis m_2		——	6	21,04		——	10 37 21,06		20,93		+0,13	3,238
1279	6	52 Leonis *k*		——	6	31.01	1	30,92	10 37 31,01		30,66		+0,35	3,195
1280	7	38 Sextantis o^2		——	1	34,81		——	10 38 34,81	34,75	33,92	+0,06	+0,89	3,127
1281	2	Argus *η*	6	34,11		——	6	34,17	10 38 34,09		31,60		—0,51	2,300
1282	6	3 Hyd & Crat b^1		——	6	38,68		——	10 38 38,67		38,28		+0,39	2,931
1283	3	Argus *μ*	7	33,77		——	4	33,96	10 39 33,82		33,50		+0,32	2,548
1284	6	53 Leonis *l*	1	24,69	5	25,26	2	25,37	10 40 25,22		25,07		+0,15	3,160
1285	6	44 Leonis Min		——	1	38,86	5	38,68	10 40 38,70		37,66		+1,04	3,518
1286	6	40 Sextantis *p*		——	1	46 30	5	46,37	10 40 46,36		45,48		+0,88	3,043
1287	4	4 Hyd & Crat *ν*	2	20,50	3	20,60	3	20,45	10 41 20,50	20,49	20,01	+0,01	+0,49	2,945
1288	6	41 Sextantis *r*		——	5	52,65		——	10 41 52,65		52,40		+0,25	3,005
1289	4.5	46 Leonis Min *o*	8	53,76		——	4	53,83	10 43 53,80	53,60	53,47	+0,20	+0,33	3,375
1290	5	Chamœl δ^2		——		——		——	10 44 Invisible		5,82		——	0,689
1291	5	45 Ursæ Maj *ω*	8	16,93		——	4	16,59	10 44 16,84		16,38		+0,46	3,488
1292	5.6	6 Hyd & Crat b^3	1	16,61	2	16,82		——	10 45 16,74		16,63		+0,11	2,919
1293	4.5	54 Leonis	8	30,29		——	5	30,22	10 46 30,28	30,36	30,16	—0,08	+0,12	3,271
1294	5	Arg. in car *u*	6	42,05		——	5	42,11	10 46 42,03		43,13		—1,10	2,396
1295	6	55 Leonis *u*		——	5	3,93		——	10 47 3,93	3,75	3,39	+0,18	+0,54	3,080
1296	7	56 Leonis		——	5	17,95		——	10 47 17,95	17,84	17,60	+0,11	+0,35	3,120
1297	6	50 Leonis Min		——	5	26,77		——	10 47 26,79		26,07		+0,72	3,275
1298	7	57 Leonis		——		——	5	33,46	10 47 33,46		33,34		+0,12	3,078
1299	5	Antl. Pneum	7	54,23		——	5	54,42	10 48 54,29		54,41		—0,12	2,769
1300	4	7 Hyd & Crat *α*	6	35,65		——	6	35,88	10 51 35,76	35,83	35,23	—0,07	+0,53	2,905*
1301	2	48 Ursæ Maj. *β*	5	39,01	1	39,23	5	38,84	10 51 39,03	39,03	39,16	—0,00	—0,13	3,680
1302	5	58 Leonis *d*	6	52,96		——	5	53,02	10 51 52,98	52,89	52,68	+0,09	+0,30	3,099
1303	5.6	59 Leonis *c*		——	7	2,27		——	10 52 2,27	2,23	1,95	+0,04	+0,32	3,116
1304	5.6	61 Leonis *s*		——	6	15,71		——	10 53 15,71		14,96		+0,75	3,058
1305	1.2	50 Ursæ Maj. *α*	6	17,49	19	17,35	21	17,20	10 53 17,37	17,46	17,38	—0,09	—0,01	3,811

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1261	5	9 11,62	2	9 13,18	6	9 14,21	57 9 14,21	9 12,05	9 10,55	+2,16	+ 3,66	+18,488
1262		——	5	32 37,15		——	116 32 37,15		32 36,67		+ 0,48	18,492
1263		——	5	59 58,79		——	72 59 58,79		0 0,49		— 1,70	18,510
1264	4	21 16,74	1	21 18,98		——	137 21 17,19		21 22,17		— 4,98	18,523
1265	5	0 24,89		——	6	0 24,44	106 0 24,65		0 19,23		+ 5,42	18,527
1266	5	2 59,12		——		——	20 2 59,12		2 53,29		+ 5,83	18,543
1267	3	51 40,12	2	51 38,30		——	90 51 39,40		51 35,88		+ 3,52	18,608
1268		——		——		——	167 Invisible		44 15,04		——	18,628
1269		——	5	47 36,80		——	62 47 36,80		47 40,09		— 3,29	18,638
1270		——	5	32 31,48		——	85 32 31,48		32 25,34		+ 6,14	18,642
1271		——	5	56 2,76		——	65 56 2,76		56 1,50		+ 1,26	18,653
1272		——	5	22 23,20		——	84 22 23,20		22 17,72		+ 5,48	18,664
1273	5	35 16,14		——		——	153 35 16,14		35 25,70		— 9,56	18,718
1274	0	26 2,68	7	26 3,58	8	26 4,30	58 26 3,60	26 6,46	26 3,52	—2,86	+ 0,08	18,723
1275		——	5	37 49,04		——	86 37 49,04		37 45,50		+ 3,54	18,724
1276	5	30 53,58		——	5	30 52,17	153 30 52,87		30 52,86		+ 0,01	18,739
1277	1	44 33,75	9	44 35,77		——	82 44 35,57	44 37,10	44 35,54	—1,53	+ 0,03	18,750
1278		——		——		——	70 ——		13 25,95		——	18,750
1279		——		——		——	74 ——		55 9,48		——	18,755
1280		——		——		——	82 ——	46 8,90	46 5,96		——	18,787
1281	5	48 6,43		——		——	148 48 6,43		48 13,26		— 6,83	18,789
1282		——	5	24 45,81		——	106 24 45,81		24 41,11		+ 4,70	18,790
1283	6	31 59,47		——		——	138 31 59,47		31 45,50		+ 13,97	18,818
1284		——	5	34 0,34		——	78 34 0,34		33 58,62		+ 1,72	18,843
1285	1	8 25,70	4	8 27,25		——	61 8 26,94		8 28,80		— 1,86	18,849
1286		——	4	8 12,26		——	93 8 12,26		8 11,08		+ 1,18	18,853
1287	5	19 1,95		——		——	105 19 1,95	18 59,30	18 56,20	+2,65	+ 5,75	18,871
1288		——	5	0 31,92		——	98 0 31,92		0 32,17		— 0,25	18,886
1289	5	52 59,77		——	7	52 57,92	54 52 58,69	52 53,03	52 51,03	+5,66	+ 7,66	18,944
1290		——		——		——	Invisible		39 20,61		——	18,953
1291	3	55 3,86	2	55 3,62		——	45 55 3,77		55 2,60		+ 1,17	18,955
1292		——	5	14 9,10		——	109 14 9,10		13 59,07		+ 10,03	18,984
1293	5	21 23,52	5	21 22,43	5	21 22,15	64 21 22,70	21 22,56	21 17,92	+0,14	+ 4,78	19,018
1294	5	57 42,71		——		——	147 57 42,71		57 48,17		— 5,46	19,025
1295		——	5	22 7,05		——	88 22 7,05	22 9,22	22 4,70	—2,17	+ 2,35	19,033
1296		——	5	55 8,92		——	82 55 8,92	55 12,21	55 7,37	—3,29	+ 1,55	19,040
1297		——		——	5	36 13,30	63 36 13,30		36 16,40		— 3,10	19,043
1298		——		——	3	40 17,70	88 40 17,70		40 18,40		— 0,70	19,047
1299	5	14 11,41		——		——	126 14 11,41		14 3,66		+ 7,75	19,084
1300	5	24 19,85		——		——	107 24 19,85	24 21,37	24 19,00	—1,52	+ 0,85	19,154
1301	1	43 7,35	7	43 7,20	2	43 7,14	32 43 7,20	43 8,92	43 6,90	—1,72	+ 0,30	19,155
1302	5	28 59,19		——		——	85 28 59,19	28 56,18	28 50,71	+3,01	+ 8,48	19,161
1303		——	5	59 50,20		——	82 59 50,20	59 52,01	59 49,45	—1,81	+ 0,75	19,165
1304	4	34 50,89	4	34 53,96		——	91 34 52,42		34 51,49		+ 0,93	19,196
1305	5	20 39,41	22	20 37,41	39	20 38,31	27 20 38,06	20 37,23	20 38,45	+0,83	— 0,39	19,196

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1306	5	60 Leonis *b*	7	21,07		——	4	21,06	10 53 21,07		20,62		+0,45	+3,216
1307	6	8 Hyd & Crat *v*		——	6	17,28		——	10 54 17,26		16,58		+0,68	2,884
1308	7	Leonis		——	6	39,18		——	10 54 39,18		38,90		+0,28	3,069
1309	6	62 Leonis *p*1		——		——	2	0,68	10 55 0,68		0,35		+0,33	3,074
1310	4.5	63 Leonis *x*	7	21,11	1	21,07	3	20,94	10 56 21,03	20,95	20,42	+0,08	+0,61	3,086*
1311	5	9 Hyd& Crat *x*1	8	15 09	3	15,20	6	15,11	10 57 15,11		14,90		+0,21	2,889
1312	5.6	Hyd &Crat *x*2		——	3	49,61		——	10 57 49,59		49,66		—0,07	2,890
1313	5.6	65 Leonis *p*2	6	19,94		——	1	20,07	10 58 19,96		19,68		+0,28	3,086
1314	6	67 Leonis		——	6	47,58		——	10 59 47,61		47,36		+0,25	3,234
1315	3.4	52 Ursæ Maj ψ	8	11,17	4	11,39		——	11 0 11,26	11,40	11,59	—0,14	—0,33	3,419
1316	5	10 Hyd & Crat	6	37,21		——	6	37,01	11 0 37,10		37,06		+0,04	2,892
1317	7	66 Leonis *p*3	1	39,45	6	39,14		——	11 0 39,18		38,86		+0,32	3,066
1318	7	Leonis		——	6	54,81		——	11 2 54,82		54,74		+0,08	3,158
1319	4	11 Hyd &Crat β	6	24,50		——	6	24,45	11 3 24,46	24.40	24,48	+0,06	+0,02	2.937
1320	3	68 Leonis δ	4	10,11	7	10,18	1	9,96	11 5 10,15	9,98	9,50	+0,17	+0,65	3,193
1321	5.6	69 Leonis *p*4	9	10,25		——		——	11 5 10,25		9,44		+0,81	3,073
1322	6.7	Leonis	2	18,05	6	17,95	1	17,91	11 5 17,97		17,51		+0,46	3,118
1323	3	70 Leonis θ	7	25,01		——	6	25,12	11 5 25,08	25,14	24,61	—0,06	+0,47	3,161
1324	5.6	72 Leonis *t*		——	6	15,50		——	11 6 15,52		14,36		+1,16	3,207
1325	5.6	73 Leonis *n*		——	5	4,21		——	11 7 4,22		3,78		+0,44	3,146
1326	6	Leonis		——	6	11,01	1	11,01	11 7 11,03		10,80		+0,23	3,143
1327	5	74 Leonis Φ	7	7,47		——	6	7,01	11 8 7,26		6,73		+0,53	3,054
1328	5.6	75 Leonis *q*		——	6	38,70	1	38,73	11 8 38,70	38,73	38,24	—0,03	+0,46	3,083
1329	4	53 Ursæ Maj. ξ	6	12,38		——	6	12,22	11 9 12,33	12,43	11,67	—0,10	+0,66	3,221*
1330	4	54 Ursæ Maj. *v*	3	23,19	3	23,06	6	23,11	11 9 23,15	23,22	23,08	—0,07	+0,07	3,266
1331	5	55 Ursæ Maj. *p*	3	57 19	4	57,24	6	57,14	11 9 57,20		56,84		+0,36	3,304
1332	6	76 Leonis	1	17,66	6	17,75		——	11 10 17,73	17,67	17,06	+0,06	+0,67	3,081
1333	3.4	12 Hyd & Crat δ	2	57,12	5	56,95	6	56,91	11 10 56,94	56.87	56,73	+0,07	+0,21	2,998
1334	4	77 Leonis σ	5	28,61	3	28,41	2	28,38	11 12 28,50	28,36	27,91	+0,14	+0,59	3,071
1335	4	Centauri π	4	22,49	1	22,87	6	22,80	11 13 22,63		21,80		+0,83	2,702
1336	7	Leonis	7	41,91		——		——	11 14 41,91		41,71		+0,20	3,073
1337	6	13 Hyd & Crat λ	1	2.70	5	2,73		——	11 15 2,71		2,70		+0,01	2,984
1338	4	78 Leonis *i*	9	9 97		——	4	9,74	11 15 9,90	9,72	9,38	+0,18	+0,52	3,121
1339	5.6	79 Leonis *r*		——	6	25,16	1	25,13	11 15 25,16	25,13	24,65	+0,03	+0,51	3,079
1340	5	14 Hyd & Crat ε	7	7,87		——	5	7,95	11 16 7,93		7,80		+0,13	3,023
1341	6.7	Leonis		——	6	15,89		——	11 16 15,90		15,73		+0,17	3,124
1342	4	15 Hyd &Crat γ	3	29,88	2	30,17	5	29,91	11 16 29,94	29,77	29,26	+0,17	+0,68	2,992
1343	6	81 Leonis		——	6	50,66		——	11 16 50,66		50,55		+0,11	3,147
1344	7	82 Leonis		——	5	1,13		——	11 17 1,13		0,92		+0,21	3,087
1345	7	80 Leonis		——	5	12,00		——	11 17 12,00		11,60		+0,40	3,089
1346	6	16 Hyd&Crat *x*		——	6	42,29		——	11 18 42,28		41,67		+0,61	3,020
1347	4	84 Leonis τ	9	18,04	1	18,00	4	17,83	11 19 17,98	17,92	17,48	+0,06	+0,50	3,084
1348	7	Leonis		——	5	19,04		——	11 19 19,04		18,68		+0,36	3,065
1349	6	85 Leonis	2	56,49	6	56,51		——	11 20 56,52		55,60		+0,92	3,135
1350	3.4	1 Draconis λ		——	5	19,87	6	19,87	11 21 20,04	20,28	20,57	—0,24	—0,53	3,695

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1306	5	55 11,22		——		——	68 55 11,22		55 10,38		+ 0,84	+19,198
1307		——	5	55 25,93		——	115 55 25,93		55 20,96		+ 4,97	19,222
1308		——	5	50 45,10		——	89 50 45,10		50 34,55		+ 10,55	19,231
1309		——	5	5 52,89		——	89 5 52,89		5 47,99		+ 4,90	19,240
1310	5	45 26,74	10	45 24,99		——	81 45 25,57	45 27,43	45 23,43	−1,86	+ 2,14	19,272
1311	4	23 18,01		——		——	116 23 18,01		23 16,16		+ 1,85	19,294
1312	1	22 52,66	3	22 51,53		——	116 22 51,81		22 49,24		+ 2,57	19,307
1313	5	8 3,13		——		——	87 8 3,13		7 57,68		+ 5,45	19,319
1314		——	5	26 2,14		——	64 26 2,14		25 57,44		+ 4,70	19,352
1315	5	35 32,29		——		——	44 35 32,29	35 29,75	35 28,81	+2,54	+ 3,48	19,361
1316	5	10 16,92		——		——	117 10 16,92		10 14,29		+ 2,63	19,371
1317		——	5	25 29,63		——	99 25 29,63		25 23,05		+ 6,58	19,372
1318	5	41 19,84		——		——	74 41 19,84		41 14,52		+ 5,32	19,422
1319	5	54 34,77		——	5	54 35,09	111 54 34,91	54 35,34	54 33,02	−0,43	+ 1,89	19,433
1320	5	33 22,64	16	33 20,12	5	33 21,72	68 33 20,91	33 24,88	33 21,88	−3,97	— 0,97	19,469
1321		——	5	9 23,76		——	89 9 23,76		9 19,99		+ 3,77	19,469
1322		——	5	1 16,76		——	81 1 16,76		1 12,66		+ 4,10	19,472
1323	5	39 7,77		——	5	39 8,88	73 39 8,32	39 12,04	39 8,15	−3,72	+ 0,17	19,475
1324		——	5	59 23,56		——	65 59 23,56		59 23,42		+ 0,14	19,498
1325		——	5	47 37,67		——	75 47 37,67		46 31,41		+ 6,26	19,508
1326		——	5	14 12,05		——	76 14 12,05		14 12,20		— 0,15	19,511
1327	5	44 4,93		——	1	44 4,54	92 44 4,86		43 57,28		+ 7,58	19,529
1328		——	5	4 2,33		——	87 4 2,33	4 0,96	3 58,98	+1,37	+ 3,35	19,539
1329	4	31 34 00	2	31 32,95	5	31 34,48	57 31 34,03	31 36,54	31 37,61	−2,51	— 3,58	20,190*
1330	1	59 26,29	4	59 24,64	5	59 25,58	55 59 25,27	59 22,83	59 20,52	+2,44	+ 4,75	19,554
1331	2	53 41,12	3	53 39,08		——	50 53 39,90		53 33,85		+ 6,05	19,564
1332	2	25 45,85	3	25 45,87		——	87 25 45,86		25 42,63		+ 3,23	19,571
1333	2	52 13,31	4	52 8,58		——	103 52 10,16	52 14,40	52 7,51	−4,24	+ 2,65	19,583
1334	5	3 1,01		——	5	3 0,63	83 3 0,82	3 4,71	3 3,66	−3,89	— 2,84	19,611
1335	5	34 15,92		——	5	34 14,51	143 34 15,21		34 23,97		— 8,76	19,627
1336		——	4	56 47,89		——	88 56 47,89		56 46,06		+ 1,83	19,650
1337		——	4	51 25,53		——	107 51 25,53		51 23,27		+ 2,26	19,657
1338	4	32 41,24	7	32 41,61	5	32 42,09	78 32 42,35	32 46,97	32 42,23	−4,62	+ 0,12	19,658
1339		——	5	40 15,36		——	87 40 15,36	40 16,04	40 9,32	−0,68	+ 6,04	19,663
1340	5	56 24,15	1	56 21,95		——	99 56 23,78		56 13,41		+ 10,37	19,675
1341	1	38 49,61	5	38 48,36		——	77 38 48,57		38 47,31		+ 1,26	19,677
1342	7	45 42,08		——	2	45 40,90	106 45 41,82	45 43,82	45 39,54	−2,00	+ 2,28	19,681
1343		——	6	37 12,59		——	82 37 12,59		37 10,84		+ 1,75	19,687
1344		——	5	46 30,44		——	85 46 30,44		46 22,02		+ 8,42	19,689
1345		——	4	13 0,33	1	13 0,89	85 13 0,44		12 52,64		+ 7,80	19,692
1346		——	5	26 3,40		——	101 26 3,40		26 1,28		+ 2,12	19,716
1347	6	13 9,80	1	13 9,24	6	13 10,68	86 13 10,17	13 10,19	13 6,00	−0,02	+ 4,17	19,726
1348	1	46 33,35	4	46 35,13		——	90 46 34,77		46 32,41		+ 2,36	19,726
1349		——	5	39 30,42		——	73 39 30,42		39 32,19		— 1,77	19,750
1350		——	5	44 36,85	5	44 36,73	19 44 36,79	44 35,72	44 35,38	+1,07	+ 1,41	19,756

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1351	6	86 Leonis		——	6	42,72		——	11 21 42,74		41,61		+1,13	+3,146
1352	4.5	87 Leonis *e*	7	44,03		——	5	44,04	11 21 44,03	44,03	43,97	—0,00	+0,66	3,060
1353	7	Hyd & Crat	5	23,94	2	24,20		——	11 23 24,01		23,86		+0,15	3,047
1354	5.6	17 Hyd & Crat		——	6	57,65		——	11 23 57,63		58,56		—0,93	2,955
1355	7	Hyd & Crat		——	5	15,80		——	11 24 15,80		15,16		+0,64	3,043
1356	4	19 Hyd & Crat ξ	7	45,51		——	5	45,38	11 24 45,44	45,41	44,66	+0,03	+0,78	2,945
1357	6	89 Leonis H	2	46,06	7	46,10	1	46,27	11 25 46,11		45,77		+0,34	3,082
1358	6	90 Leonis C		——	4	57,51		——	11 25 57,53		57,19		+0,34	3,131
1359	6	Ursæ Min.	5	26,51	1	26,77		——	11 27 26,56		26,48		+0,08	3,172
1360	4	Centauri λ	8	4,88		——	6	4,85	11 28 4,77		2,89		+1,88	2,717
1361	4	21 Hyd & Crat θ	8	9,89		——	4	10,05	11 28 9,94	10,00	9,49	—0,06	+0,45	3,039
1362	4 5	91 Leonis υ	6	21,07		——	6	20,98	11 28 21,03	21,12	20,65	—0,09	+0,38	3,068
1363	6.7	1 Virginis ω	1	47,57	7	47,80	2	47,71	11 29 47,76		47,51		+0,25	3,096
1364	7	Virginis		——	6	49,37		——	11 29 49,37		48,93		+0,44	3,063
1365	5.6	24 Hyd & Crat		——	4	8,59		——	11 30 8,58		8,31		+0,27	3,030
1366	5.6	92 Leonis	3	2,36	3	2,19		——	11 32 2,28		2,17		+0,11	3,135
1367	6.7	Virginis	7	20,51		——		——	11 35 20,51		20,30		+0,21	3,054
1368	4	27 Hyd & Crat ζ	8	15,53	4	15,52	1	15,70	11 36 15,54	15,49	14,98	+0,05	+0,56	3,025
1369	5	2 Virginis ξ^1	9	37,36	1	37,30	4	37,43	11 36 37,37	37,19	36,47	+0,18	+0,90	3,090
1370	4	63 Ursæ Maj. χ	5	8,99	1	9,07	6	8,72	11 37 8,91	9,00	8,21	—0,09	+0,70	3,220
1371	4.5	3 Virginis υ	5	13,29	4	13,29	4	13,45	11 37 13,34	13,43	13,20	—0,09	+0,14	3,086
1372	5.6	4 Virginis ξ^2	1	17,12	5	17,10		——	11 39 17,10		16,18		+0,92	3,088
1373	4	93 Leonis E	2	19,05	4	18,88	6	18,65	11 39 18,81	18,80	18,39	+0,01	+0,42	3,115
1374	6	Hyd & Crat		——	6	17,05		——	11 40 17,03		16,48		+0,55	3,012
1375	2.3	94 Leonis β	3	29,07	23	29,23	6	29,14	11 40 29,21	29,18	28,90	+0,03	+0,31	3,064*
1376	3.4	5 Virginis β	8	56,79	17	56,98	1	56,84	11 41 56,92	56,90	56,43	+0,02	+0,49	3,124*
1377	6	Virginis B	6	27,18		——		——	11 42 27,18		26,71		+0,47	3,060
1378	4	28 Hyd & Crat β	6	26,65	6	26,52		——	11 44 26,57	26,42	26,51	+0,15	+0,06	3,009
1379	2	64 Ursæ Maj γ	7	57,42	11	57,45	23	57,45	11 44 57,52	57,42	57,21	+0,10	+0,31	3,192
1380	6	6 Virginis A	6	25,85	2	26,08		——	11 46 25,91		25,60		+0,31	3,081
1381	6	29 Hyd & Crat		——	6	8,66		——	11 47 8,64		8,39		+0,25	3,029
1382	6	30 Hyd & Crat η		——	5	27,85		——	11 47 27,84		27,75		+0,09	3,047
1383	7	Virginis		——	6	37,42	1	37,29	11 49 37,40		37,09		+0,31	3,073
1384	5	Chamœl ε		——		——		——	11 51 Invisible.		19,72		——	2,842
1385	5.6	7 Virginis *b*	1	20,69	7	20,67		——	11 51 20,67		20,48		+0,19	3,072
1386	5	8 Virginis π	13	15,84	9	15,79		——	11 52 15,81	15,15	15,76	+0,66	+0,05	3,074
1387	5.6	31 Hyd & Crat		——		——	6	16,42	11 52 16,40		15,89		+0,51	3,053
1388	7	Virginis		——	6	26,04		——	11 52 26,04		25,78		+0,26	3,067
1389	6	1 Comæ Ber	5	7,58	1	7,57		——	11 53 7,58		6,71		+0,87	3,085
1390	7	Virginis	6	9,92	1	10,07	3	10,01	11 55 9,97		10,11		—0,14	3,071
1391	6	2 Comæ Ber		——	6	40,03		——	11 55 40,05		39,32		+0,73	3,079
1392	4.5	9 Virginis *o*	15	39,12	5	39,16		——	11 56 39,13	39,02	38,85	+0,11	+0,28	3,071
1393	7	Virginis	1	24,01	3	24,08		——	11 57 24,06		23,81		+0,25	3,067
1394	4.5	Crucis η	6	10,93		——		——	11 58 10,93		11,33		—0,40	3,046
1395	3	Centauri δ	6	41,32		——	6	41,46	11 59 41,35		41,69		—0,34	3,065

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1351	4	39 57,47		——		——	70 39 57,47		39 52,76		+ 4,71	+19,762
1352	5	4 40,05	1	4 39,62	5	4 38,95	92 4 39,51	4 39,05	4 36,76	+0,46	+ 2,75	19,762
1353	5	32 23,44		——		——	95 32 23,44		32 20,19		+ 3,25	19,786
1354		——	5	20 25,61		——	118 20 25,61		20 24,55		+ 1,06	19,794
1355	5	54 1,79		——		——	96 54 1,79		53 59,27		+ 2,52	19,798
1356	5	55 43,98	7	55 42,52	5	55 42,22	120 55 42,89	55 41,64	55 43,61	+1,25	— 0,72	19,805
1357	2	0 24,91	4	0 26,92		——	86 0 26,25		0 22,93		+ 3,32	19,818
1358		——	5	16 30,92		——	72 16 30,92		16 27,90		+ 3,02	19,820
1359		——	5	17 25,84		——	61 17 25,84		17 24,01		+ 1,83	19,839
1360	5	5 28,74		——	2	5 25,25	152 5 27,74		5 29,73		— 1,99	19,847
1361	6	52 21,51		——	5	52 23,54	98 52 22,43	52 25,69	52 19,79	—3,26	+ 2,64	19,848
1362	6	53 50,85	2	53 51,85	6	53 52,52	89 53 51,70	53 49,33	53 46,61	+2,37	+ 5,09	19,850
1363	4	56 11,52		——		——	80 56 11,52		56 10,60		+ 0,92	19,868
1364	3	30 24,12	2	30 23,95		——	91 30 24,05		30 22,55		+ 1,50	19,868
1365		——	5	17 38,95		——	102 17 38,95		16 36,28		+ 2,67	19,872
1366	5	42 46,97		——		——	67 42 46,97		42 47,32		— 0,35	19,892
1367	1	44 37,66	4	44 37,60		——	95 44 37,61		44 32,05		+ 5,56	19,926
1368	5	25 0,99	15	24 58,89		——	107 24 59,04	25 1,87	24 59,51	—2,83	— 0,47	19,934
1369	5	48 31,78		——	3	48 31,03	80 48 31,50	48 29 96	48 23,29	+1,54	+ 8,21	19,937
1370	5	17 19,27		——		——	41 17 19,27	17 21,71	17 20,92	—2,44	— 1,65	19,942
1371	5	31 42,61		——		——	82 31 42,61	31 44,91	31 44,88	—2,30	+ 2,27	19,943
1372	1	49 19,20	4	49 17,75		——	80 49 18,04		49 13,26		+ 4,78	19,960
1373	5	50 48,45		——		——	68 50 48,45	50 52,09	50 49,32	—3,64	— 0,87	19,960
1374		——	5	48 58,18		——	115 48 58,18		48 54,84		+ 3,34	19,968
1375	7	29 19,61	13	29 20,01	22	29 20,65	74 29 20,27	29 20,38	29 15,64	—0,11	+ 4,63	19,969
1376	8	17 19,24	7	17 19,87	5	17 18,77	87 17 19,35	17 19,68	17 17,60	—0,33	+ 1,75	19,980
1377	4	23 57,85	1	23 57,45		——	94 23 57,77		23 53,75		+ 4,02	19,983
1378	6	58 20,90		——		——	122 58 20,90	58 24,04	58 24,95	—3,14	— 4,05	19,996
1379	7	22 18,72	21	22 19,16	21	22 20,07	35 22 18,72	22 15,55	22 18,27	+3,17	+ 0,45	19,999
1380	3	37 20,56	2	37 20,20		——	80 37 20,42		37 15,19		+ 5,23	20,007
1381	5	32 22,35		——		——	117 32 22,35		32 23,99		— 1,64	20,011
1382	1	12 54,25		——		——	106 12 54,25		12 50,07		+ 4,18	20,012
1383		——	5	34 59,78		——	85 34 59,78		34 55,96		+ 3,82	20,022
1384		——		——		——	167 Invisible		17 15,24		——	20,028
1385	5	24 34,43		——		——	85 24 34,43		24 30,57		+ 3,86	20,028
1386	9	26 55,08		——	7	26 55,32	82 26 55,18	26 50,30	26 53,79	+4,88	+ 1,39	20,031
1387	2	43 23,52		——		——	108 43 23,52		43 18,65		+ 4,87	20,031
1388		——	4	49 40,12		——	90 49 40,12		49 40,47		— 0,35	20,031
1389		——	4	58 7,49		——	66 58 7,49		58 10,00		— 2,51	20,033
1390		——	5	30 6,81		——	83 30 6,81		30 5,72		+ 1,09	20,038
1391	1	36 14,27	4	36 15,89		——	67 36 15,57		36 12,97		+ 2,60	20,039
1392	12	20 4,51		——	10	20 3,83	80 20 4,20	20 0,44	20 0,55	+3,76	+ 3,65	20,040
1393	3	11 43,60		——		——	92 11 43,60		11 39,33		+ 4,27	20,041
1394	5	40 29,26		——		——	153 40 29,26		40 37,32		— 8,06	20,042
1395	9	47 15,07	7	47 13,33		——	139 47 14,35		47 16,33		— 1,98	20,043

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832			Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833						Green.	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
1396	4.5	1 Corvi α	3	45,83	8	45,82	12	45,91	11	59	45,85	45,79	45,65	+0,06	+0,20	+3,067
1397	6	10 Virginis τ	3	4,73	4	5,18	1	5,10	12	1	5,00		4,53		+0,47	3,068
1398	4	2 Corvi ε	6	30,07		——	6	29,88	12	1	29,96	29,89	29,64	+0,07	+0,32	3,071
1399	7	11 Virginis s		——	6	29,79	2	29,75	12	1	29,78		29,91		—0,13	3,067
1400	6	3 Corvi		——	5	26,07		——	12	2	26,05		25,54		+0,51	3,074
1401	4	Centauri ρ	6	54,57		——	6	54,77	12	2	54,57		53,42		+1,15	3,088
1402	6	4 Comæ Ber		——	6	19,39		——	12	3	19,40		19,15		+0,25	3,059
1403	6	5 Comæ Ber		——	6	36,26		——	12	3	36,27		35,75		+0,52	3,060
1404	5	Draconis	1	13,20	5	13,52	3	12,10	12	4	13,47		14,00		—0,53	2,949
1405	6	12 Virginis t	2	52,63	4	52,60		——	12	4	52,61		52,07		+0,54	3,063
1406	3	Crucis δ	7	16,82		——	6	17,31	12	6	17,00		14,77		+2,23	3,125
1407	3	69 Ursæ Maj. δ	8	4,40		——	4	4,29	12	7	4,40	4,38	3,59	+0,02	+0,81	3,003
1408	3	4 Corvi γ	6	10,69		——	9	10,68	12	7	10,69	10,69	10,37	0,00	+0,32	3,080
1409	5	6 Comæ Ber		——	4	28,32	6	28,05	12	7	28,17		27,68		+0,49	3,056
1410	5	7 Comæ Ber h	5	50,28	1	49,99		——	12	7	50,23		49,88		+0,35	3,047
1411	5	Chamœl β		——		——		——	12	8	——		46,03		——	3,313
1412	6	13 Virginis n	6	3,77	6	3,74	2	3,91	12	10	3,78	3,78	3,50	0,00	+0,28	3,068
1413	6.7	14 Virginis H		——	6	41,89		——	12	10	41,88		41,62		+0,26	3,077
1414	6	8 Comæ Ber		——	6	49,84		——	12	10	49,86		49,16		+0,70	3,040
1415	3.4	15 Virginis η	5	18,73		——	5	18,41	12	11	18,57	18,69	18,77	—0,12	—0,20	3,068
1416	6	10 Comæ Ber		——	6	23,28		——	12	11	23,30		22,57		+0,73	3,031
1417	5.6	16 Virginis c	1	49,34	4	49,60	5	49,27	12	11	49,42	48,47	48,47	+0,95	+0,95	3,026*
1418	5.6	5 Corvi ζ		——	4	52,21		——	12	11	52,20		51,95		+0,25	3,095
1419	5	11 Comæ Ber s	5	13,48		——	6	13,51	12	12	13,52		12,86		+0,66	3,044
1420	6	Corvi		——	1	16,01	4	15,99	12	12	15,99		15,65		+0,34	3,084
1421	4	Crucis ε		——	4	21,35	4	21,20	12	12	21,19		19,52		+1,67	3,189
1422	6	17 Virginis		——	6	59,74	1	59,68	12	13	59,74		58,80		+0,94	3,059
1423	5	12 Comæ Ber e	9	3,18		——	5	2,92	12	14	3,11		2,94		+0,17	3,027
1424	5.6	6 Corvi		——	6	37,39		——	12	14	37,37		37,35		+0,02	3,106
1425	5	13 Comæ Ber f	6	52,42		——	6	52,26	12	15	52,36		51,62		+0,74	3,021
1426	4	Crucis α_1	1	14,71		——	6	14,27	12	17	14,20		12,41		+1,79	3,257
1427	1	Crucis α^2	5	18,98	2	18,75	4	19,29	12	17	18,99		17,62		+1,37	3,258
1428	5	14 Comæ Ber b	2	59,72	1	59,56	2	59,26	12	17	59,52		58,90		+0,62	3,012
1429	5	15 Comæ Ber c		——	6	33,57		——	12	18	33,59		32,90		+0,69	3,008
1430	4.5	16 Comæ Ber a	5	34,86		——	3	34,67	12	18	34,80	34,82	34,13	+0,02	+0,67	3,011
1431	5	Centauri σ	5	59,68	3	59,89		——	12	18	59,75		0,23		—0,48	3,196
1432	6.7	Virginis		——	4	14,83		——	12	19	14,83		14,55		+0,28	3,075
1433	4	Centauri u	1	28,25	4	28,20		——	12	19	28,18		28,44		—0,26	3,156
1434	7	Virginis		——	6	45,10		——	12	19	45,11		44,63		+0,48	3,057
1435	5.6	17 Comæ Ber d		——	2	30,83	4	30,79	12	20	30,82		30,30		+0,52	3,008
1436	6	18 Comæ Ber		——		——	6	2,32	12	21	2,35		2,02		+0,33	3,011
1437	3	7 Corvi δ	2	10,80	4	11,07		——	12	21	10,98	11,06	11,25	—0,08	—0,27	3,102
1438	6.7	Virginis		——		——	6	25,75	12	21	25,74		26,11		—0,37	3,095
1439	2.3	Crucis γ	5	54,05	1	54,06		——	12	21	54,04		54,51		—0,47	3,257
1440	6	19 Virginis		——		——	4	1,63	12	22	1,64		1,28		+0,36	3,044

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1396		5 47 25,70		6 47 23,91		6 47 24,59	113 47 24,68	47 28,44	47 27,60	—3,76	— 2,92	+20,043
1397		——		5 9 31,44		——	87 9 31,44		9 30,44		+ 1,00	20,042
1398		——		——		6 41 3,90	111 41 3,90	41 4,50	41 7,18	—0,60	— 3,28	20,042
1399		——		5 15 28,92		——	83 15 28,92		15 23,52		+ 5,40	20,042
1400		——		6 39 57,44		——	112 39 57,44		39 55,98		+ 1,46	20,042
1401		5 25 56,83		——		——	141 25 56,83		26 7,32		— 10,49	20,041
1402		——		5 11 31,35		——	63 11 31,35		11 34,81		— 3,46	20,041
1403		——		5 31 13,86		——	68 31 13,86		31 17,91		— 4,05	20,040
1404		——		5 26 59,50		——	11 26 59,50		26 57,43		+ 2,07	20,039
1405		——		5 48 5,77		——	78 48 5,77		48 4,23		+ 1,54	20,038
1406		6 48 46,84		——		6 48 46,13	147 48 46,48		48 55,31		— 8,83	20,035
1407		6 2 2,70		——		6 2 0,83	32 2 1,76	2 0,22	2 4,41	+1,54	— 2,65	20,033
1408		1 36 29,53		4 36 29,14		——	106 36 29,22	36 30,42	36 25,74	—1,20	+ 3,48	20,033
1409		——		5 9 51,84		——	74 9 51,84		9 49,73		+ 2,11	20,032
1410		——		4 7 15,25		2 7 13,17	65 7 14,65		7 9,43		+ 5,12	20,031
1411		——		——		——	168 Invisible		22 54,24		——	20,028
1412		——		5 51 13,14		——	89 51 13,14	51 9,83	51 7,83	+3,31	+ 5,31	20,024
1413		——		5 58 43,54		——	97 58 43,54		58 43,42		+ 0,12	20,021
1414		——		3 1 51,23		——	66 1 51,23		1 42,88		+ 8,35	20,021
1415		7 43 59,26		8 43 57,10		7 43 59,79	89 43 58,64	43 56,93	43 53,70	+1,71	+ 4,94	20,019
1416		——		5 36 6,38		——	60 36 6,38		36 6,33		+ 0,05	20,018
1417		——		6 45 2,04		——	85 45 2,04	45 4,50	45 0,87	—2,46	+ 1,17	20,016
1418		——		5 16 50,42		——	111 16 50,42		16 50,69		— 0,27	20,017
1419		4 16 41,10		——		——	71 16 41,10		16 39,40		+ 1,70	20,015
1420		——		——		5 37 57,23	102 37 57,23		37 57,91		— 0,68	20,014
1421		5 28 21,07		——		——	149 28 21,07		28 24,15		— 3,08	20,014
1422		——		5 45 31,28		——	83 45 31,28		45 28,92		+ 2,36	20,006
1423		2 13 13,77		3 13 11,99		——	63 13 12,70		13 15,45		— 2,75	20,005
1424		——		6 54 23,67		——	113 54 23,67		54 23,79		— 0,12	20,002
1425		5 58 4,40		1 58 3,65		——	62 58 4,27		58 7,27		— 3,00	19,995
1426		——		——		——	152 11 ——		11 32,97		——	19,987
1427		6 10 0,96		4 10 3,03		5 10 0,39	152 10 1,32		10 7,97		— 6,65	19,986
1428		——		5 47 59,96		——	61 47 59,96		47 58,53		+ 1,43	19,982
1429		——		5 47 47,38		——	60 47 47,38		47 47,15		+ 0,23	19,978
1430		5 14 33,38		——		11 14 34,43	62 14 34,10	14 34,62	14 31,73	—0,52	+ 2,37	19,978
1431		4 17 54,66		——		4 17 56,18	139 17 55,40		17 41,83		+ 13,57	19,975
1432		——		5 41 1,33		——	93 41 1,33		40 59,64		+ 1,69	19,973
1433		2 6 32,60		2 6 34,76		——	128 6 33,68		6 25,29		+ 8,39	19,971
1434		——		6 40 23,05		——	84 40 23,05		40 16,82		+ 6,23	19,969
1435		——		5 9 20,49		——	63 9 20,49		9 21,99		— 1,50	19,963
1436		——		4 56 41,99		——	64 56 41,99		57 33,76		— 51,77	19,959
1437		3 34 47,62		11 34 46,52		——	105 34 46,76	34 45,23	34 41,19	+1,53	+ 5,57	19,958
1438		——		5 27 36,40		——	102 27 36,40		27 37,81		— 1,41	19,956
1439		5 10 16,13		——		——	146 10 16,13		10 4,66		+ 11,47	19,952
1440		——		——		5 21 9,09	79 21 9,09		21 1,66		+ 7,43	19,951

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in No. 1831	Mean A. R. January 1, 1832, from Observations in No. 1832	Mean A. R. January 1, 1832, from Observations in No. 1833	Mean A. R. January 1, 1832	Greenh Catal.	A S. Catal.	Difference from Green.	Difference from A. S.	Annual Precession
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1441	4	Muscæ γ	——	1 33,22	——	12 22 33,11		34,34		—1,23	+3,452
1442	5 6	21 Comæ Ber g	——	6 36,82	——	12 22 36,84		36,73		+0,11	3,066
1443	6 7	Virginis	——	5 1,24	——	12 23 1,23		0,87		+0,36	3,078
1444	4.5	8 Corvi η	6 25,62	——	——	12 23 25,62	25,45	25,47	+0,17	+0,15	3,105
1445	6	20 Virginis	——	2 32,78	3 32,63	12 24 32,70		32,36		+0,34	3,040
1446	5.6	21 Virginis q	1 6,85	5 7,03	——	12 25 7,00		6,79		+0,21	3,090
1447	6	22 Comæ Ber	——	——	6 11,49	12 25 11,52		11,22		+0,30	2,999
1448	2·3	9 Corvi β	7 34,73	——	——	12 25 34,73	34,66	34,05	+0,07	+0,68	3,129
1449	4.5	8 CanumVen d	5 44,90	——	——	12 25 44,90	44,90	44,84	0,00	+0,06	2,864*
1450	3 4	5 Draconis κ	3 15,95	2 15,80	——	12 26 15,93	15,84	14,92	+0,09	+1,01	2,600*
1451	4.5	23 Comæ Ber k	1 28,40	4 28,49	2 28,34	12 26 28,45	28,73	28,04	—0,28	+0,41	3,001
1452	5.6	24 Comæ Ber l	——	2 41,61	3 41,87	12 26 41,79		41,52		+0,27	3,014
1453	4	Muscæ ε	2 16,05	4 15,77	——	12 27 15,81		16,19		—0,38	3,463
1454	6.7	25 Virginis f	2 8,78	2 8,67	——	12 28 8,72		8,20		+0,52	3,082
1455	6	25 Comæ Ber	——	1 32,76	5 32,67	12 28 32,70		31,89		+0,81	3,014
1456	5	Centauri τ	5 33,27	——	5 33,12	12 28 33,16		33,30		—0,14	3,249
1457	5.6	Hyd & Crat d	——	6 48,79	——	12 28 48,77		48,56		+0,21	3,150
1458	7	Virginis	——	6 48,66	1 48,57	12 29 48,66		48,50		+0,16	3,060
1459	6.7	Virginis	——	3 5,60	2 5,50	12 30 5,55		5,41		+0,14	3,079
1460	4	26 Virginis κ	——	6 35,18	——	12 30 35,17	35,01	34,51	+0,16	+0,66	3,090
1461	6	26 Comæ Ber m	——	——	6 45,52	12 30 45,54		44,96		+0,58	2,996
1462	5	Centauri l	10 48,74	——	1 48,67	12 30 48,74		48,68		+0,06	3,213
1463	3	Centauri γ	7 17,58	——	——	12 32 17,58		18,27		—0,69	3,276
1464	6	27 Virginis	——	——	6 6,51	12 33 6,51		5,39		+1,12	3,030
1465	4	29 Virginis γ1	3 9,13	6 8,97	5 9,20	12 33 9,08	9,13	8,83	—0,05	+0,25	3,022*
1466	4	Virginis γ2	——	4 9,14	——	12 33 9,14		9,07		+0,07	3,022*
1467	6	28 Virginis	1 16,73	3 17,08	2 17,07	12 33 17,01		16,77		+0,24	3,090
1468	5	30 Virginis ρ	——	6 22,88	——	12 33 22,89		22,31		+0,58	3,030
1469	6	31 Virginis d1	——	——	5 26,42	12 33 26,43		26,15		+0,28	3,042
1470	6	Hyd & Crat e	——	5 4,67	——	12 35 4,65		4,26		+0,39	3,173
1471	4	Muscæ β	4 4,72	3 4,68	——	12 36 4,67		5,19		—0,82	3,564
1472	6	33 Virginis	——	5 50,67	——	12 37 50,68		50,43		+0,25	3,027
1473	2	Crucis β	8 58,02	——	3 58,41	12 37 58,10		58,84		—0,74	3,430
1474	6	27 Comæ Ber n	7 15,17	——	——	12 38 15,17		14,89		+0,28	2,998
1475	6	34 Virginis	2 45,95	4 46,17	——	12 38 46,10		46,05		+0,05	3,017
1476	6.7	Virginis	3 53,28	5 52,96	——	12 38 53,03		52,73		+0,30	3,089
1477	6	35 Virginis	3 18,23	4 18,41	——	12 39 18,34		17,98		+0,36	3,050
1478	6	29 Comæ Ber o	2 29,14	4 29,03	——	12 40 29,07		28,18		+0,89	3,005
1479	6	30 Comæ Ber	——	5 5,81	——	12 41 5,83		5,57		+0,26	2,939
1480	6.7	Virginis	1 38,97	5 39,08	——	12 42 39,06		38,71		+0,35	3,109
1481	6	37 Virginis	——	6 4,08	——	12 43 4,09		3,74		+0,35	3,051
1482	5.6	31 Comæ Ber p	——	6 30,57	——	12 43 30,59		30,26		+0,33	2,932
1483	5	Centauri n	10 9,83	——	4 9,78	12 44 9,81		9,54		+0,27	3,277
1484	6	38 Virginis	1 35,82	5 35,44	——	12 44 35,50		35,21		+0,29	3,080
1485	5	Centauri o	7 46,87	——	4 47,88	12 44 47,21		47,01		+0,20	3,455

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No	1832	No	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1441		——	1	12 13,63	3	12 14,24	161 12 14,09		12 10 59		+ 3,50	+19,946
1442		——	5	30 13,12		——	61 30 13,12		30 10,38		+ 2,74	19,946
1443		——		——	5	7 28,79	94 7 28,79		7 27,31		+ 1,48	19,943
1444	4	15 56,11	2	15 56,17		——	105 15 56,13	15 52,33	15 47,73	+3,80	+ 8,40	19,939
1445		——	4	46 29,66		——	78 46 29,66		46 34,12		— 4,46	19,929
1446		——	6	31 23,97		——	98 31 23,97		31 22,75		+ 1,22	19,923
1447		——		——	4	47 21,85	64 47 21,85		47 17,49		+ 4,36	19,923
1448	3	27 59,83	3	27 59,25		——	112 27 59,54	27 58,06	27 59,40	+1,48	+ 0,14	19,919
1449		——	5	43 39,71		——	47 43 39,71	43 43,60	43 37,95	—3,89	+ 1,76	19,917
1450	6	17 5,13		——		——	19 17 5,13	17 4,41	17 6,63	+0,72	— 1,50	19,912
1451	1	26 37,34	4	26 39,35		——	66 26 38,95	26 40,75	26 38,89	—1,80	+ 0,06	19,910
1452		——	5	41 49,36		——	70 41 49,36		41 46,08		+ 3,28	19,908
1453	5	12 24,80		——	1	12 24,90	158 12 24,82		12 26,26		— 1,44	19,902
1454		——	2	54 19,92	3	54 21,82	94 54 20,76		54 15,94		+ 4,82	19,893
1455		——		——	4	59 0,61	71 59 0,61		59 0,60		+ 0,01	19,889
1456	5	36 52,32		——		——	137 36 52,32		36 49,12		+ 3,20	19,888
1457		——	5	12 32,01		——	116 12 32,04		12 25,64		+ 6,40	19,886
1458		——		——	6	13 10,35	87 13 10,35		13 7,08		+ 3,27	19,874
1459		——		——	5	26 52,01	93 26 52,01		26 53,18		— 1,17	19,871
1460		——		——		——	97 ——	4 12,03	4 6,44		——	19,866
1461		——	5	0 41,11		——	68 0 41,11		0 43,33		— 2,22	19,864
1462	3	3 39,12	1	3 40,40		——	129 3 39,44		3 36,94		+ 2,50	19,863
1463	5	2 2,16		——	2	2 4,33	138 2 2,78		2 0,79		+ 1,99	19,845
1464		——	5	38 58,91		——	78 38 58,91		39 1,26		— 2,35	19,835
1465		——	9	31 38,42		——	90 31 38,42	31 36,32	31 35,55	+2,10	+ 2,87	19,835
1466		——	9	31 38,42		——	90 31 38,42		31 36,55		+ 1,87	19,835
1467		——	5	34 28,47		——	96 34 28,47		34 25,49		+ 2,98	19,833
1468		——	3	50 9,54	3	50 11,35	78 50 10,45		50 8,45		+ 2,00	19,832
1469		——		——	5	16 12,37	82 16 12,37		46 6,41		——	19,831
1470		——	5	24 0,32		——	117 24 0,32		23 56,27		+ 4,05	19,810
1471	6	11 13,44		——		——	157 11 13,44		11 10,39		+ 3,05	19,796
1472	4	31 12,53	1	31 11,59		——	79 31 12,34		31 7,15		+ 5,19	19,771
1473	6	46 2,07	2	46 1,53		——	148 46 1,94		46 2,16		— 0,22	19,770
1474		——	5	30 9,17		——	72 30 9,17		30 9,16		+ 0,01	19,766
1475		——	5	7 20,13		——	77 7 20,13		7 12,28		+ 7,85	19,758
1476		——	5	21 52,29		——	95 22 52,29		22 48,08		+ 4,21	19,756
1477		——	5	30 31,92		——	85 30 31,92		30 28,10		+ 3,82	19,750
1478		——	6	57 33,25		——	74 57 33,25		57 26,80		+ 6,45	19,732
1479		——	5	31 50,26		——	61 31 50,26		31 45,59		+ 4,67	19,723
1480		——	4	25 20,21		——	99 25 20,21		25 17,27		+ 2,94	19,698
1481		——	5	1 41,36		——	86 1 41,36		1 37,04		+ 4,32	19,691
1482		——	5	32 33,40		——	61 32 33,40		32 34,12		— 0,72	19,684
1483	4	15 48,69		——		——	129 15 48,69		15 43,01		+ 5,68	19,674
1484		——	5	38 15,61		——	92 38 15,61		38 14,47		+ 1,14	19,666
1485	5	15 46,82		——		——	146 15 46,82		15 44,35		+ 2,47	19,663

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832		Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833					Green.	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.
1486	5	35 Comæ Ber *q*	5	1,14	1	1.09	5	1,10	12	45	1,13		1,17	—0,04	+2,962
1487	6	41 Virginis		—	5	23,72		—	12	45	23,73		23,41	+0,32	3,006
1488	5.6	40 Virginis ψ		—	5	37,52		—	12	45	37,51	37,44	37,55	+0,07 —0,04	3,108
1489	3	77 Ursæ Maj. ε	4	36,94	1	36,97		—	12	46	36,95	36,92	36,24	+0,03 +0,71	2,655
1490	7	42 Virginis		—		—	1	41,30	12	46	41,30		40,74	+0,56	3,027
1491	3.4	43 Virginis δ	5	8,64	5	8,78	2	8,59	12	47	8,69	8,59	8,38	+0,10 +0,31	3,004*
1492	2.3	12 Canum Ven *a*	4	9.60	1	9,83		—	12	48	9,65	9,58	9,11	+0,07 +0,54	2,841
1493	4.5	36 Comæ Ber *r*	6	36,67		—	10	36,75	12	50	36.73	36,77	36,31	—0,04 +0,42	2,971
1494	4	Muscœ δ	1	51,98	5	51,21		—	12	50	51,35		49,74	+1 61	3,902
1495	6	44 Virginis k^1	3	0,68	3	0,62	1	0,66	12	51	0,65		0,41	+0.24	3,083
1496	6.7	46 Virginis k^3		—	6	57,30		—	12	51	57,30		56,91	+0,39	3,081
1497	5	37 Comæ Ber	9	13,65		—	4	13,52	12	52	13,62		14,14	—0,52	2,882
1498	6	38 Comæ Ber		—	5	50,82		—	12	52	50,83		50,39	+0,44	2,969
1499	3.4	47 Virginis ε	7	49,06		—	7	48,83	12	53	48,95	49,01	48,78	—0,06 +0,17	3,003
1500	6	48 Virginis k_4	6	15,35	2	15,43		—	12	55	15,37		15,05	+0,32	3,083
1501	5	Centauri ξ^3		—		—	5	8,86	12	57	8,79		9,93	—1,14	3,447
1502	6.7	Virginis		—	6	35,83		—	12	57	35,82		35,67	+0,15	3,151
1503	5	14 Canum Ven *f*		—		—		—	12	57	—		52,10	—	2,820
1504	5	39 Comæ Ber *t*		—		—	6	9,62	12	58	9,65		9,55	+0,10	2,932
1505	6	40 Comæ Ber		—		—	3	11,69	12	58	11,72		10,71	+1,01	2,922
1506	5.6	49 Virginis *g*		—		—	2	6,32	12	59	6,31	6,37	6,39	—0,06 —0,08	3,127
1507	4	41 Comæ Ber *u*		—		—	4	6,59	12	59	6,62	6,83	6,17	—0,21 +0,45	2,883
1508	6	Comæ Ber		—		—	6	50,73	12	59	50,76		51,29	—0,53	2,881
1509	4.5	1 HydræCon ψ	2	1,51		—	1	1,17	13	0	1,42	1,37	0,90	+0,05 +0,52	3,209
1510	6	50 Virginis		—		—	4	58,28	13	0	58,27		58,21	+0,06	3,126
1511	4.5	51 Virginis θ	1	15,52		—	3	15,64	13	1	15,60	15,67	15,54	—0,07 +0,06	3,097
1512	5	Centauri *w*		—		—	4	49,10	13	1	49,04		49,04	0,00	3,393
1513	4.5	42 Comæ Ber *v*		—	3	48,78		—	13	1	48,79	48,95	48,48	—0,16 +0,31	2,950
1514	5	53 Virginis	7	8,00		—		—	13	3	8,00		7,40	+0,60	3,167
1515	6	43 Comæ Ber *w*		—	5	1,69		—	13	4	1,71		0,48	+1,23	2,787*
1516	6	Virginis	4	11,44	2	11,25		—	13	4	11,38		11,27	+0,11	2,987
1517	6	55 Virginis		—	6	12,59		—	13	5	12,57		12,40	+0,17	3,197
1518	7	Virginis		—	5	24,21	2	24,36	13	5	24,25		24,17	+0,08	3,053
1519	6	57 Virginis	2	54,68	4	54,64		—	13	6	54,65		54,15	+0,50	3,201
1520	6	59 Virginis *e*		—		—	6	26,24	13	8	26,25		26,11	+0,14	2,997
1521	6	58 Virginis		—	6	39,63		—	13	8	39,62		39,43	+0.19	3,135
1522	6	60 Virginis σ		—	5	7,47		—	13	9	7,46		7,09	+0,37	3,024
1523	4.5	61 Virginis	12	37,98		—	2	37,98	13	9	37,98	38,15	37,37	—0.17 +0,61	3,106*
1524	4.5	2 Hydræ Con γ	6	48.40		—	6	48 36	13	9	48,36	48,45	48,14	—0,09 +0,22	3,232
1525	5	20 Canum Ven *h*	5	60,00	1	59,97	3	59,80	13	9	59,94		59,40	+0,54	2,713
1526	5	21 Canum Ven	4	4,89	1	5,33		—	13	11	4,98		4,69	+0,29	2,573
1527	3	Centauri *i*		—	6	10,87	6	10,86	13	11	10,83	10,96	11,62	—0,13 —0,79	3,362
1528	7	62 Virginis		—	6	31,23		—	13	11	31,22		31,16	+0,06	3,143
1529	6	64 Virginis *u*		—	6	41,77		—	13	13	41,78		41,46	+0,32	3,023
1530	6	63 Virginis		—	5	2,09		—	13	14	2,08		1,57	+0,51	3,196

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N P D January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1486	2	50 20,10	3	50 21,95		——	67 50 21,21		50 21,46		— 0,25	+19,659
1487		——	5	40 0,11		——	76 40 0,41		39 55,58		+ 4,83	19,653
1488		——	6	37 25,25		——	98 37 25,25	37 29 17	37 26,99	—3,92	— 1,74	19,649
1489	5	7 36,10		——		——	33 7 36,10	7 36,53	7 39,47	—0,43	— 3,37	19,631
1490		——		——		——	81 ——		16 5,60		——	19,630
1491	1	41 15,89	5	41 17,59		——	85 41 17,31	41 16,10	41 13,93	+1,21	+ 3,38	19,622
1492	9	46 22,80		——		——	50 46 22,80	46 22,44	46 21,21	+0,36	+ 1,59	19,604
1493	6	40 57,75		——	6	40 56,65	71 40 57,20	40 59,14	40 50,56	—1,94	+ 6,64	19,558
1494	5	38 24,10		——		——	160 38 24,10		38 21,47		+ 2,63	19,554
1495		——	5	54 10,55		——	92 54 10,55		54 9,07		+ 1,48	19,550
1496		——	5	28 45,18		——	92 28 45,18		27 42,97		+ 2,21	19,532
1497	5	19 20,92		——		——	58 19 20,92		18 20,59		+ 0,33	19,526
1498		——	5	58 6,79		——	71 58 6,79		58 4,28		+ 2,51	19,514
1499	4	8 7,16	2	8 6,54	7	8 6,62	78 8 6,78	8 8,96	8 5,77	—2,18	+ 1,01	19,495
1500		——	4	45 23,82		——	92 45 23,82		45 21,90		+ 1,92	19,465
1501		——		——	5	0 11,97	139 0 11,97		0 4,43		+ 7,54	19,425
1502		——	5	0 52,74		——	104 0 52,74		0 52,34		+ 0,40	19,415
1503	1	17 57,90	4	17 58,37		——	53 17 58,28		18 0,88		— 2,60	19,409
1504		——	5	56 31,73		——	67 56 31,73		56 34,72		— 2,99	19,403
1505		——	5	28 45,28		——	66 28 45,28		28 47,89		— 2,61	19,402
1506		——	1	50 25,41	4	50 27,43	99 50 27,03	50 23,14	50 19,47	+3,89	+ 7,56	19,382
1507	1	28 18,02	6	28 16,26	9	28 17,42	61 28 17,04	28 17,10	28 16,51	—0,06	+ 0,53	19,382
1508		——		——	4	32 30,38	61 32 30,38		32 21,77		+ 8,61	19,365
1509		——	5	13 2,56		——	112 13 2,56	13 1,37	13 2,52	+1,19	+ 0,04	19,362
1510		——		——	5	25 52,46	99 25 52,46		25 58,62		— 6,16	19,340
1511		——	4	38 24,85		——	94 38 24,85	38 23,99	38 22,75	+0,86	+ 2,10	19,333
1512	5	28 12,85		——		——	132 28 12,85		28 12,89		— 0,04	19,320
1513		——	3	33 46,53	2	33 46,31	71 33 46,44	34 48,01	34 46,95	—1,57	— 0,51	19,320
1514	3	17 27,80	2	17 27,16		——	105 17 27,54		17 19,61		+ 7,93	19,290
1515		——	3	16 2,86		——	61 16 2,86		16 0,82		+ 2,04	18,428*
1516		——	5	32 52,91		——	77 32 52,91		32 51,33		+ 1,58	19,264
1517		——	4	2 43,40		——	109 2 43,40		2 41,48		+ 1,92	19,239
1518		——	5	38 53,03		——	87 38 53,03		38 51,11		+ 1,92	19,235
1519	2	2 47,52	3	2 46,97		——	109 2 47,19		2 44,08		+ 3,11	19,197
1520		——	5	41 46,56		——	79 41 46,56		41 42,70		+ 3,86	19,158
1521		——	1	39 32,58	4	39 34,41	99 39 34,04		39 27,10		+ 6,94	19,153
1522		——	5	38 29,43		——	83 38 29,43		38 28,98		+ 0,45	19,141
1523	5	22 25,67		——		——	107 22 25,67	22 27,38	22 25,41	—1,71	+ 0,26	20,208*
1524	6	16 56,26	3	16 56,18		——	112 16 56,23	16 56,96	16 52,28	—0,73	+ 3,95	19,123
1525	2	32 27,11	3	32 25,86		——	48 32 25,16		32 23,65		+ 1,51	19,117
1526	4	25 58,91	1	25 54,87		——	39 25 58,11		25 59,43		— 1,32	19,089
1527		——	5	49 25,99		——	125 49 25,99		49 19,47		+ 6,52	19,086
1528		——	1	25 9,64	4	25 10,27	100 25 10,15		25 2,56		+ 7,59	19,077
1529		——	1	57 38,18	4	57 41,24	83 57 40,63		57 39,15		+ 1,48	19,018
1530		——	5	51 9,97		——	106 51 9,97		51 5,85		+ 4,12	19,009

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1531	6	65 Virginis	4 37,07	1 37,04	——	13 14 37,06		37,25		—0,19	+3,098
1532	6	66 Virginis	——	6 49,08	——	13 15 49,07		48,71		+0,36	3,100
1533	1	67 Virginis α	15 21,29	9 21,32	40 21,19	13 16 21,25	21,14	21,00	+0,11	+0,25	3,147
1534	3	79 Ursæ Maj. ζ	9 8,79	——	4 8,32	13 17 8,67	8,62	7,33	+0,05	+1,34	2,419
1535	4	68 Virginis i	6 51,42	——	——	13 17 51,42	51,36	50,77	+0,06	+0,65	3,161
1536	5.6	69 Virginis P	3 30,37	3 30,32	——	13 18 30,34		29,95		+0,39	3,189
1537	5	80 Ursæ Maj. g	——	4 28,91	——	13 18 28,95		28,71		+0,24	2,407
1538	5·6	70 Virginis w	——	6 12,78	——	13 20 12,79		12,80		—0,01	2,948
1539	var.	Hydræ Con u	——	5 33,17	——	13 20 33,16		33,01		+0,15	3,257
1540	7	Virginis	2 38,04	5 38,04	1 38,12	13 20 38,06		37,79		+0,27	3,072
1541	6	71 Virginis l^1	——	1 53,47	9 53,74	13 20 53,73		53,46		+0,27	2,972
1542	4	Centauri d	8 20,12	——	2 20,01	13 21 20,09		20,04		+0,05	3,437
1543	6	73 Virginis	——	——	5 0,18	13 23 0,16		59,66		+0,50	3,220
1544	6	Centauri s	——	——	6 12,59	13 23 12,56		12 64		—0,08	3,327
1545	6	74 Virginis l^2	4 14,39	5 14,42	——	13 23 14,41	14,68	14,06	—0,27	+0,35	3,113
1546	6	75 Virginis	4 53,85	2 53,85	——	13 23 53,85		53,38		+0,47	3,191
1547	6	76 Virginis h	——	6 7,87	——	13 24 7,86		7,33		+0,53	3,146
1548	7	77 Virginis	——	1 38,46	7 38,65	13 24 38,62		38,34		+0,28	3,125
1549	6	78 Virginis	1 37,58	5 37,57	——	13 25 37,57		36,40		+1,17	3,029
1550	4	79 Virginis ζ	9 8,44	1 8,43	6 8 47	13 26 8,45	8,46	8,39	—0,01	+0,06	3,066
1551	6	80 Virginis l^3	6 47,40	1 47,47	4 47,38	13 26 47,40		47,16		+0,24	3,107
1552	6	Hydræ Con f	——	2 30,35	4 30,31	13 27 30,30		30,78		—0,48	3,307
1553	6	Centauri t	4 17,10	2 17,03	——	13 29 17,07		17,28		—0,21	3,345
1554	3	Centauri ε	5 17,97	——	3 18,22	13 29 18,03		18,64		+0,61	3,731
1555	6	1 Bootis	7 38,98	1 38,98	——	13 32 38,98		38,35		+0,63	2,868
1556	5.6	82 Virginis m	5 48,29	4 48,26	4 48,24	13 32 48,26	48,37	48,09	—0,11	+0,17	3,140
1557	6	2 Bootis	——	6 5,37	——	13 33 5,36		4,87		+0,49	2,840
1558	6	84 Virginis o	——	6 37,47	——	13 34 37,47		36,91		+0,56	3,027
1559	7	Virginis	——	5 10,31	——	13 35 10,31		10,20		+0,11	3,112
1560	6	83 Virginis	——	6 26,86	——	13 35 26,85		25,79		+1,06	3,216
1561	7	Virginis	1 8,69	1 8,94	5 9,17	13 36 9,05		8,90		+0,15	3,133
1562	5	1 Centauri i	9 10,11	——	——	13 36 10,11		10,85		—0,74	3,410
1563	6	Hydræ Con g	——	——	6 15,51	13 36 15,48		15,60		—0,12	3,325
1564	6	85 Virginis	——	——	6 33,13	13 36 33,11		32,62		+0,49	3,213
1565	6	86 Virginis O	——	6 59,96	——	13 36 59,96		59,57		+0,39	3,180
1566	7	Solitarii	——	——	3 4,43	13 38 4,41		4,09		+0,32	3,252
1567	6	87 Virginis	——	——	3 18,18	13 38 18,16		17,38		+0,78	3,238
1568	6	3 Bootis	——	——	——	13 38 ——		54,82		——	2,789
1569	5	4 Bootis τ	6 16,70	2 16,85	——	13 39 16,82		16,30		+0,52	2,883
1570	4	Centauri ν	——	——	——	13 39 ——		27,83		——	3,553
1571	7	88 Virginis	1 31,22	6 31,39	——	13 39 31,36		30,95		+0,41	3,127
1572	4	Centauri μ	5 32,09	——	——	13 39 32,09		32,11		—0,02	3,567
1573	5	2 Centauri g	3 44,42	3 44,40	——	13 39 44,40		44,32		+0,08	3,442
1574	5.6	89 Virginis x	——	6 45,45	——	13 40 45,44		45,19		+0,25	3,245
1575	2.3	85 Ursæ Maj. η	2 54,68	4 54,55	16 54,49	13 40 54,59	54,71	54,08	—0,12	+0,51	2,353*

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precessi-on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1531		——	5	2 32,98		——	94 2 32,98		2 32,56		+ 0,42	+18,992
1532		——	5	16 58,82		——	94 16 58,82		16 56,66		+ 2,16	18,959
1533	21	16 58,21	14	16 56,55	41	16 57,59	100 16 57,57	16 53,96	16 51,02	+3,61	+ 6,55	18,944
1534	7	11 43,28		——		——	34 11 43,28	11 42,34	11 41,00	+0,94	+ 2,28	18,921
1535	4	49 51,55	2	49 49,08		——	101 49 50,73	49 50,32	49 50,75	+0,41	— 0,02	18,901
1536		——	5	6 2,69		——	105 6 2,69		5 54,77		+ 7,92	18,882
1537		——	5	8 5,29		——	34 8 5,29		8 6,02		— 0,73	18,881
1538		——		——	5	19 19,56	75 19 19,56		19 12,90		+ 6,66	19,360*
1539		——		——	5	24 34,68	112 24 34,68		24 34,83		— 0,15	18,821
1540	3	27 28,12		——		——	90 27 28,12		29 18,61		+ 9,51	18,818
1541		——	5	18 27,03		——	78 18 27,03		18 27,53		— 0,50	18,810
1542	5	32 10,45		——		——	128 32 10,45		32 7,82		+ 2,63	18,797
1543	4	51 33,44		——		——	107 51 33,44		51 33,95		— 0,51	18,746
1544		——	5	41 50,25		——	118 41 50,25		41 49,47		+ 0,78	18,739
1545		——	5	23 10,36		——	95 23 10,36	23 9,47	23 2,87	+0,89	+ 7,49	18,739
1546		——	4	29 46,17		——	104 29 46,49		29 42,76		+ 3,73	18,718
1547		——		——	6	17 47,96	99 17 47,96		17 44,26		+ 3,70	18,711
1548	1	45 24,43	4	45 23,26		——	96 45 23,49		45 18,55		+ 4,94	18,695
1549		——	5	28 32,75		——	85 28 32,75		28 27,54		+ 5,21	18,664
1550	6	44 4,98		——	7	44 5,67	89 44 5,35	44 2,73	43 58,04	+2,62	+ 7,31	18,647
1551		——	5	32 15,89		——	94 32 15,89		32 11,26		+ 4,63	18,626
1552		——	4	38 7,40		——	115 38 7,40		38 4,13		+ 3,27	18,603
1553	4	41 53,03		——		——	118 41 53,03		41 54,29		— 1,26	18,544
1554	7	36 27,72		——		——	142 36 27,72		36 23,39		+ 4,33	18,544
1555	5	11 30,99		——		——	69 11 30,99		11 29,76		+ 1,23	18,431
1556		——	5	51 4,20		——	97 51 4,20	51 8,06	51 4,90	—3,86	— 0,70	18,425
1557		——	5	38 56,79		——	66 38 56,79		38 56,61		+ 0,18	18,415
1558		——	4	36 33,61		——	85 36 33,61		36 28,41		+ 5,20	18,362
1559		——	5	38 59,17		——	94 38 59,17		38 54,84		+ 4,33	18,343
1560		——		——	5	19 53,70	105 19 53,70		19 47,62		+ 6,08	18,334
1561		——		——	6	47 15,67	96 47 15,67		47 12,24		+ 3,43	18,308
1562	5	11 26,06		——		——	122 11 26,06		11 26,67		— 0,61	18,307
1563		——	3	16 10,57	2	16 11,78	115 16 11,05		16 7,67		+ 3,38	18,305
1564		——	5	55 17,44		——	104 55 17,44		55 9,17		+ 8,27	18,294
1565		——	6	34 52,05		——	101 34 52,05		34 49,91		+ 2,14	18,278
1566		——	5	24 39,51		——	108 24 39,51		24 40,88		— 1,37	18,239
1567		——		——	5	0 56,38	107 0 56,38		0 49,55		+ 6,83	18,231
1568		——	5	27 3,16		——	63 27 3,16		27 6,71		— 3,55	18,208
1569	5	42 8,30	5	42 8,77		——	71 42 8,53		42 6,53		+ 2,00	18,195
1570		——		——		——	130 ——		50 44,06		——	18,189
1571		——		——	5	59 43,49	95 59 43,49		59 43,33		+ 0,16	18,186
1572	5	37 57,83		——		——	131 37 57,83		37 54,48		+ 3,35	18,186
1583	3	36 29,26	5	36 28,41		——	123 36 28,83		36 31,62		— 2,79	18,179
1574		——	5	17 37,37		——	107 17 37,37		17 31,04		+ 6,33	18,141
1575	14	50 47,50	2	50 49,98	6	50 50,16	39 50 48,45	50 44,00	50 41,88	+4,45	+ 6,57	18,134

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1576	7	Solitarii		——	2	1,34	4	1,41	13 41 1,36		1,24		+0,12	+3,276
1577	4	5 Bootis υ	3	22,48	3	22,52	1	22,41	13 41 22,50	22,46	22,01	+0,04	+0,49	2,897
1578	6	6 Bootis		——		——	6	45,98	13 41 46,01		46,18		−0,17	2,835
1579	4.5	3 Centauri k		——	7	9,51	3	9,52	13 42 9.49	9,38	10,20	+0,11	−0,71	3,480
1580	5	4 Centauri h	5	34,00	1	34,12		——	13 43 34,02		33,88		+0,14	3,419
1581	6	Hydræ Con		——	5	47,55		——	13 44 47,64		47,75		−0,11	3,378
1582	3	Centauri ζ	6	6,34		——		——	13 45 6,34		6,53		−0,19	3,690
1583	6	7 Bootis		——		——	6	11,21	13 45 11,23		10,54		+0,69	2,867
1584	6	90 Virginis p	2	5,17	5	4,93		——	13 46 5,00		5,00		0,00	3,075
1585	7	Virginis	2	10,46	5	10,08		——	13 46 10,20		10,68		−0,48	3,144
1586	4.5	10 Draconis i	5	31,41	1	31,42		——	13 46 31,42	31,36	30,23	+0,06	+1,19	1,751
1587	3	8 Bootis η	6	41,25	1	41 18	9	41,21	13 46 41,24	41,35	40,90	−0,11	+0,34	2,859
1588	5	Centauri ϕ	5	5,75	1	5,70		——	13 48 5,74		5,73		+0,01	3,600
1589	5	Centauri υ^1		——	5	20,71		——	13 48 20,68		20,92		−0,24	3,654
1590	5	9 Bootis l	2	53,90	4	53,19		——	13 48 53,84		53,62		+0,22	2,789
1591	6	3 HydræCon S^1		——		——	5	6,71	13 49 6,68		5,76		+0,92	3,342
1592	6	4 HydræCon S^2		——		——	6	36,73	13 50 36,70		36,88		−0,18	3,346
1593	7	Virginis		——	6	7,49		——	13 51 7,49		7,45		+0,04	3,098
1594	7	Virginis		——	5	14,14		——	13 51 14,13		13,70		+0,43	3,148
1595	5	Centauri υ^2	6	17,32		——		——	13 51 17,32		17,32		0,00	3,686
1596	1	Centauri β	5	2,70		——	4	2,92	13 52 2,75		3,71		−0,96	4,134
1597	5.6	Hydræ Con h		——	6	50,93		——	13 52 50,91		50,86		+0,05	3,384
1598	4.5	93 Virginis τ	6	6,29	1	6,14	1	6,28	13 53 6,28	6,18	6,07	+0,10	+0,21	3,042
1599	6	11 Bootis		——	2	33,15	4	33,18	13 53 33,20		32,23		+0,97	2,728
1600	6.7	Virginis	3	22,31	2	22,14		——	13 55 22,24		21,95		+0,29	3,230
1601	7	Virginis	2	28,21	6	28,38		——	13 55 28,33		28,19		+0,14	3,164
1602	5	Centauri χ	6	49,55		——	4	49,65	13 55 49,57		49,13		+0,44	3,617
1603	4.5	5 HydræCon π	5	49,55	1	49,52	4	49,64	13 56 49,57	49,55	49,41	+0,02	+0,16	3,384
1604	2	5 Centauri θ	4	49,51	3	49,51	3	49,89	13 56 49,60	49,47	50,07	+0,13	−0,47	3,491*
1605	6	94 Virginis		——	3	24,74	2	24,51	13 57 24,64		24,38		+0,26	3,161
1606	6	95 Virginis		——	6	50,43		——	13 57 50,42		50,02		+0,40	3,166
1607	3.4	11 Draconis α	4	50,64	2	50,91	7	50,06	13 59 50,47	50,72	49,82	−0,25	+0,65	1,625
1608	6.7	96 Virginis γ	1	4,60	6	4,23		——	14 0 4,27		3,85		+0,42	3,180
1609	5	Octantis δ		——		——		——	14 0 Invisible		59,86		——	8,440
1610	6	Virginis	3	40,82	3	40,90		——	14 1 40,85		40,22		+0,63	3,255
1611	5.6	12 Bootis d		——	4	44,16	2	44,16	14 2 44,18		43,96		+0,22	2,737
1612	5	6 Hydræ Con	8	9,92		——		——	14 3 9,92		9,85		+0,07	3,408
1613	7	97 Virginis	1	36,92	6	37,13		——	14 3 37,09		36,49		+0,60	3,178
1614	6	Virginis		——	5	46,14		——	14 3 46,15		45,98		+0,17	3,029
1615	4	98 Virginis $\varkappa$	8	56,76	1	56,68	3	56,74	14 3 56,75	56,79	56,73	−0,04	+0,02	3,183
1616	6	14 Bootis q		——		——	5	0,51	14 6 0,53		0,24		+0,29	2,897
1617	6	Virginis		——	2	9,66	2	9,57	14 6 9,59		9,14		+0,45	3,287
1618	6	15 Bootis v		——	2	37,29	3	37,79	14 6 37,60		37,32		+0,28	2,933
1619	4	99 Virginis ι	3	13,04	2	13,06		——	14 7 13,04	12,98	12,83	+0,06	+0,21	3,182
1620	1	16 Bootis α	9	0,03	9	0,03	13	0,03	14 8 0,04	0,10	59,75	−0,06	+0,29	2,731*

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1576		——		——	5	1 56,56	110 1 56,56		1 50,94		+ 5,62	+18,131
1577	5	21 54,57		——		——	73 21 54,57	21 55,77	21 51,22	—1,20	+ 3,35	18,118
1578		——	5	53 44,01		——	67 53 44,01		53 53,75	—	9,74	18,102
1579	4	9 27,74	1	9 26,94		——	122 9 27,58	9 22,80	9 23,87	+4,78	+ 5,71	18,088
1580		——	5	5 38,66		——	121 5 38,66		5 33,97		+ 4,69	18,035
1581		——		——	3	44 6,38	117 44 6,38		44 6,13		+ 0,25	17,988
1582		——	4	27 26,69		——	136 27 26,69		27 20,34		+ 6,35	17,976
1583		——		——	5	14 8,40	71 14 8,40		14 8,39		+ 0,01	17,973
1584		——	5	40 22,92		——	90 40 22,92		40 20,32		+ 2,60	17,938
1585		——	5	13 42,73		——	97 13 42,73		13 41,25		+ 1,48	17,934
1586	3	26 45,42	3	26 42,62		——	24 26 44,02	26 41,29	26 44,69	+2,73	— 0,67	17,919
1587	5	45 26,36		——	5	45 25,47	70 45 25,91	45 24,10	45 21,94	+1,81	+ 3,97	17,914
1588	4	16 33,38	2	16 34,45		——	131 16 33,73		16 27,90		+ 5,83	17,859
1589	4	58 45,28	1	58 46,06		——	133 58 45,43		58 36,30		+ 9,13	17,849
1590		——	5	40 53,06		——	61 40 53,06		40 51,15		+ 1,91	17,826
1591		——	5	8 52,11		——	114 8 52,11		8 49,57		+ 2,54	17,819
1592		——		——	6	11 9,98	114 11 9,98		11 7,18		+ 2,80	17,758
1593		——		——	5	43 37,88	92 43 37,88		43 36,05		+ 1,83	17,737
1594		——	2	20 23,98	3	20 26,94	97 20 25,76		20 22,73		+ 3,03	17,732
1595	5	47 10,07		——		——	134 47 10,07		47 4,04		+ 6,03	17,731
1596	7	33 26,79		——		——	149 33 26,79		33 20,66		+ 6,13	17,700
1597		——	6	36 51,12		——	116 36 51,12		36 48,40		+ 2,72	17,666
1598	2	38 18,09	3	38 19,80	5	38 19,94	87 38 19,51	38 20,11	38 18,37	—0,60	+ 1,14	17,655
1599		——	5	47 52,98		——	61 47 52,98		47 54,59		— 1,61	17,637
1600		——	4	9 35,37	1	9 35,68	104 9 35,43		9 34,21		+ 1,22	17,561
1601		——		——	5	26 47,14	98 26 47,14		26 45,84		+ 1,30	17,557
1602	5	22 14,68		——		——	130 22 14,68		22 6,54		+ 8,14	17,542
1603	5	52 8,76		——		——	115 52 8,76	52 5,23	52 6,33	+8,53	+ 2,43	17,499
1604	5	32 24,13		——		——	125 32 24,13		32 21,94		+ 2,19	17,499
1605		——		——	5	5 6,74	98 5 6,74		5 5,53		+ 1,21	17,474
1606		——	5	30 26,53		——	98 30 26,53		30 23,63		+ 2,90	17,456
1607	5	49 15,29		——	1	49 12,22	24 49 14,79	49 9,40	49 8,91	+5,39	+ 5,88	17,367
1608		——	5	32 5,98		——	99 32 5,98		32 2,55		+ 3,43	17,359
1609		——		——		——	172 Invisible		52 58,81		——	17,326
1610		——	2	30 15,65	4	30 17,52	105 30 16,90		30 12,86		+ 4,04	17,289
1611		——	4	6 31,73		——	64 6 31,73		6 29,81		+ 1,92	17,241
1612	4	27 59,17	2	27 57,77		——	116 27 58,74		27 53,73		+ 5,01	17,223
1613		——		——	5	6 20,59	99 6 20,59		6 20,01		+ 0,58	17,202
1614		——	4	47 43,97		——	86 47 43,97		47 42,39		+ 1,58	17,195
1615	4	29 18,22		——		——	99 29 18,22		29 20,70		— 2,48	17,187
1616		——	4	14 55,86		——	76 14 55,86		14 54,82		+ 1,04	17,093
1617		——	5	24 44,94		——	107 24 44,94		24 44,14		+ 0,80	17,087
1618		——	3	6 15,64	2	6 16,99	79 6 16,18		6 11,69		+ 4,49	17,065
1619	5	11 46,43		——		——	95 11 46,43	11 40,62	11 37,21	+5,81	+ 9,22	17,038
1620	14	56 24,59	12	56 26,36	44	56 26,92	69 56 26,36	56 21,62	56 18,73	+4,74	+ 7,63	18,962*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Greenh Catal.	A S. Catal.	Difference from		Annual Precession
			No. 1831	No. 1832	No. 1833				Green.	A S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1621	6	Bootis	——	——	6 10,33	14 8 10,35		9,94		+0,41	+2,814
1622	4.5	Lupi ι	6 41,45	1 41,26	——	14 8 41,42		40,94		+0,48	3,786
1623	4	19 Bootis λ	1 59,57	4 59,71	——	14 9 59,70	59,51	59,03	—0,19	+0,67	2,265*
1624	4	100 Virginis λ	5 2,07	3 2,05	——	14 10 2,06	2 23	1,72	—0,17	+0,34	3,228
1625	4.5	21 Bootis ι	——	6 12,73	2 12,58	14 10 12,76	12,72	12,28	+0,04	+0,48	2,143
1626	6	102 Virginis υ1	——	5 53,55	——	14 10 53,55		53,59		—0,04	3,087
1627	6	18 Bootis t	——	——	——	14 11 ——		8,01		——	2,891
1628	6	20 Bootis y	——	——	4 48,25	14 11 48,27		47,78		+0,49	2,845
1629	6	103 Virginis υ2	——	——	6 19,51	14 13 19,51		19,33		+0,18	3,083
1630	6	7 HydræCon	——	6 26,37	——	14 13 26,36		25,90		+0,46	3,442
1631	6	2 Libræ	1 24,12	3 23,91	2 23,90	14 14 23,94		23,06		+0,88	3,211
1632	6	Bootis	——	1 7,19	4 7,28	14 15 7,27		6,99		+0,28	2,947
1633	6	Solitarii	——	——	——	14 15 ——		14,53		——	3,399
1634	5	1 Lupi τ1	6 23,69	——	——	14 15 23,69		23,42		+0,27	3,797
1635	5	2 Lupi τ2	5 25,26	——	——	14 15 25,26		24,77		+0,49	3,802
1636	5.6	Bootis	——	6 50,04	——	14 15 50,05		50,17		—0,12	2,982
1637	5.6	8 Hydræ Con	——	6 21,67	——	14 18 21,65		21,48		+0,17	3,483
1638	6.7	104 Virginis N1	——	5 35,92	——	14 18 35,91		35,37		+0,54	3,139
1639	4	23 Bootis θ	6 28,64	——	8 28,77	14 19 28,77	28,52	27,74	+0,25	+1,03	2,015*
1640	5	105 Virginis Φ	8 33,35	——	4 33,50	14 19 33,40		33,06		+0,34	3,088
1641	6	106 Virginis N2	——	5 50,61	——	14 19 50,60		50,26		+0,34	3,150
1642	5	Lupi σ	5 21,17	——	1 21,44	14 21 21,20		21,68		—0,48	3,979
1643	4	25 Bootis ρ	6 35 35	——	——	14 24 35,35	35,34	35,29	+0,01	+0,06	2,592
1644	3	Centauri η	4 52,49	2 52,72	——	14 24 52,57		52,53		+0,04	3,764
1645	6	26 Bootis	——	——	5 54,41	14 24 54,44		53,73		+0,71	2,733
1646	3.4	27 Bootis γ	——	6 18,79	2 18,74	14 25 18,80	18,72	18,59	+0,08	+0,21	2,426
1647	7	Solitarii α	——	2 24,46	3 24,41	14 25 24,42		24,15		+0,27	3,351
1648	5	Lupi ρ	6 38,14	——	——	14 26 38,14		39,17		—1,03	3,975
1649	4.5	Apodis α	——	——	——	14 27 Invisible		26,03		——	6,987
1650	5	28 Bootis σ	4 21,81	2 21,61	——	14 27 21,75		21,36		+0,59	2,597
1651	6.7	Libræ	——	——	3 4,52	14 28 4,51		6,06		—1,55	3,233
1652	4	5 Ursæ Min A	1 58,45	4 58,65	——	14 27 58,73	58,78	59,43	—0,05	—0,70	—0,269
1653	4	Centauri α1	——	4 14,54	——	14 28 14,48		20,70		—6,22	+4,470
1654	1	Centauri α2	3 16,25	——	——	14 28 16,25		22,60		—6,35	4,470
1655	4	Circini α	——	——	3 2,74	14 29 2,74		4,71		—1,97	4,742
1656	7	3 Libræ	——	——	3 41,33	14 29 41,30		40,90		+0,40	3,434
1657	3	Lupi α	6 48,10	——	——	14 30 48,10		48,65		—0,55	3,933
1658	6	Bootis	——	——	5 40,57	14 32 40,59		40,39		+0,20	2,858
1659	3.4	29 Bootis π	6 49,89	——	——	14 32 49,89	49,94	49,24	—0,05	+0,65	2,813
1660	3.4	30 Bootis ζ	5 7,75	1 7,95	1 7,78	14 33 7,78	7,74	7,18	+0,04	+0,60	2,855
1661	5	Centauri c1	5 24,57	1 24,91	——	14 33 24,62		24,88		—0,26	3,636
1662	5	31 Bootis ϰ	——	6 24,08	——	14 33 24,09		23,90		+0,19	2,938
1663	7	4 Libræ	——	4 31,96	——	14 33 31,94		31,95		—0,01	3,442
1664	6	32 Bootis	——	——	2 39,79	14 33 39,80		39,68		+0,12	2,886
1665	4.5	107 Virginis μ	2 13,02	3 13,14	1 13,05	14 34 13,08	13,02	12,89	+0,06	+0,19	3,140

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	′	″
1621		——		——	2	18 10,14	70 18 10,14		18 5,48		+ 4,66	+16,994
1622	4	16 43,08		——		——	135 16 43,08		16 34,43		+ 8,65	16,971
1623	4	8 14,28	1	8 12,47		——	43 8 14,00	8 14,73	8 13,34	—0,73	+ 0,66	16,908
1624	1	35 34,43	5	35 34,08		——	102 35 34,14	35 36,66	35 33,16	—2,52	+ 0,98	16,907
1625		——	3	51 17,69	1	51 17,49	37 51 17,64	51 18,57	51 18,58	—0,93	— 0,94	16,897
1626		——		——	3	29 5,22	91 29 5,22		29 2,52		+ 2,70	16,867
1627		——		——	1	12 54,77	76 12 54,77		12 53,27		+ 1,50	16,855
1628		——	5	55 6,26		——	72 55 6,26		55 7,12		— 0,86	16,823
1629		——	5	12 56,68		——	91 12 56,68		12 55,77		+ 0,91	16,751
1630		——		——	5	58 28,10	116 58 28,10		58 44,36		— 16,26	16,746
1631		——	5	56 33,63		——	100 56 33,63		56 29,91		+ 3,72	16,700
1632		——		——	4	47 6,53	80 47 6,53		47 4,16		+ 2,37	16,664
1633		——	4	2 20,09	1	2 19,94	114 2 20,00		2 18,35		+ 1,71	16,659
1634	5	27 22,45		——		——	134 27 22,45		27 15,98		+ 6,47	16,652
1635	4	36 55,17	3	36 57,37		——	134 36 56,11		36 49,25		+ 6,86	16,651
1636		——	5	24 46,11		——	83 24 46,11		24 46,95		— 0,84	16,629
1637		——	5	43 52,40		——	118 43 52,40		43 52,96		— 0,56	16,506
1638		——	2	21 34,56	3	21 33,26	95 21 33,78		21 24,56		+ 9,22	16,494
1639	5	22 13,10		——	4	22 11,95	37 22 12,59	22 12,17	22 13,40	+0,42	— 0,81	16,988*
1640		——	5	28 12,64		——	91 28 12,64		28 13,02		— 0,38	16,446
1641		——	5	8 29,17		——	96 8 29,17		8 23,42		+ 5,75	16,431
1642	4	42 24,57		——		——	139 42 24,57		42 16,93		+ 7,64	16,356
1643	5	53 14,75		——	6	53 15,35	58 53 15,08	53 14,57	53 15,49	+0,51	— 0,41	16,189
1644		——	5	24 51,02		——	131 24 51,02		24 48,12		+ 2,90	16,176
1645		——	1	58 45,34	4	58 45,48	66 58 45,41		59 46,41		— 1,00	16,173
1646	4	57 12,85	3	57 13,01	1	57 11,97	50 57 12,80	57 12,86	57 9,94	—0,06	+ 2,86	16,151
1647		——	5	41 53,35		——	109 41 53,35		41 49,08		+ 4,27	16,148
1648		——		——	5	41 12,91	138 41 12,91		41 13,88		— 0,92	16,084
1649		——		——		——	168 Invisible		19 8,64		——	16,049
1650	5	31 19,44		——		——	59 31 19,44		31 15,73		+ 3,71	16,045
1651		——		——	5	35 8,67	101 35 8,67		35 21,03		— 12,36	16,007
1652		——	3	33 24,31	2	33 22,03	13 33 23,40	33 26,10	33 27,36	—2,70	— 3,96	16,007
1653		——	4	7 26,79		——	150 7 26,79		8 28,11		— 1,32	15,996
1654	3	8 8,88	5	8 8,27	1	8 8,16	150 8 8,50		8 3,11		+ 5,39	15,995
1655		——		——	5	14 10,29	154 14 10,29		13 48,08		+ 22,21	15,958
1656		——	5	17 45,12		——	144 17 45,12		17 44,47		+ 0,65	15,924
1657		——	5	39 38,91		——	136 39 38,91		39 37,67		+ 1,24	15,865
1658		——	2	44 22,25	3	44 23,61	75 44 23,06		44 17,10		+ 5,96	15,763
1659		——	4	51 24,36	1	51 23,91	72 51 24,27	51 25,45	51 24,57	— 1,18	+ 0,30	15,755
1660	5	32 49,63		——	5	32 49,52	75 32 49,57	32 48,21	32 42,81	+1,36	+ 6,76	15,738
1661	5	26 43,09		——		——	124 26 43,09		26 31,17		+ 11,92	15,724
1662	1	6 55,18		——	4	6 54,57	81 6 54,69		6 52,45		+ 2,24	15,724
1663		——		——	5	16 35,29	114 16 35,29		16 32,96		+ 2,33	15,717
1664		——		——		——	77 36 ——		36 38,38		——	15,709
1665		——	5	55 28,34		——	94 55 28,34	55 22,71	55 49,97	+5,63	— 21,63	15,680

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1666	4.5	34 Bootis	1	2,32	4	2,37		——	14 36 2,37	2,41	1,77	—0,04	+0,60	+2,635
1667	5.6	10 Hydræ Con		——		——	5	17,99	14 36 17,96		17,61		+0,35	3,455
1668	7	Libræ		——		——	4	40,42	14 36 40,40		40,03		+0,37	3,383
1669	6	5 Libræ p	1	42,91		——	4	42,77	14 36 42,78		42,70		+0,08	3,290
1670	4.5	35 Bootis o	2	24,35	5	24,30		——	14 37 24,32	24,33	23,83	—0,01	+0,49	2,798
1671	5.6	11 Hydræ Con		——		——		——	14 37 ——		36,85		——	3,462
1672	3	36 Bootis ε	6	39,00		——	1	38,98	14 37 39,00	38,97	38,52	+0,03	+0,48	2,621
1673	7	Libræ		——		——		——	14 37 ——		41,36		——	3,387
1674	4	109 Virginis z		——	5	45,83		——	14 37 45,84	45,77	45,27	+0,07	+0,57	3,029
1675	5.6	12 Hydræ Con		——	1	57,50		——	14 37 57,48		56,30		+1,18	3,471
1676	6	13 Hydræ Con		——		——		——	14 38 ——		9,00		——	3,481
1677	5.6	7 Libræ μ		——	5	7,44		——	14 40 7,43	7,40	7,17	+0,03	+0,26	3,273
1678	5	6 Libræ	5	26,64	1	27,00		——	14 40 26,70		26,41		+0,29	3,511
1679	5	Lupi o	6	42,88		——		——	14 40 42,88		42,39		+0,49	3,868
1680	6	8 Libræ α^1		——	5	24,52		——	14 41 24,50	24,45	24,39	+0,05	+0,11	3,304
1681	3	9 Libræ α^2	4	35,86	2	35,99	17	36,01	14 41 35,97	35,92	35,91	+0,05	+0,06	3,305
1682	6	Libræ		——		——	3	11,96	14 42 11,94		11,64		+0,30	3,335
1683	6	11 Libræ d		——		——	4	18,74	14 42 18 74		18,62		+0,12	3,092
1684	7	10 Libræ c		——		——	5	26,81	14 42 26,79		26,00		+0,79	3,345
1685	6	Bootis		——		——	3	44,43	14 42 44,47		43,97		+0,50	2,579
1686	3.4	37 Bootis ξ	6	38,51		——		——	14 43 38,51	38,59	38,22	—0,08	+0,29	2,753
1687	6	12 Libræ		——	6	35,76		——	14 44 35,74		35,77		—0,03	3,458
1688	6	13 Libræ ξ^1	1	16,25		——		——	14 45 16,25		15,96		+0,29	3,243
1689	3,4	Lupi β	6	33,97		——		——	14 47 33,97		34,00		—0,03	3,883
1690	6	Libræ		——		——	5	40,69	14 47 ——		37,96		——	3,404
1691	5	15 Libræ ξ^2	4	40,01	3	39,90	2	39,99	14 47 39,96	39,96	39,08	0,00	+0,88	3,237
1692	7	14 Libræ		——		——	5	43,39	14 47 43,36		43,25		+0,11	3,479
1693	3	Centauri x	5	16,17		——		——	14 48 16,17		16,12		+0,05	3,857
1694	5.6	16 Libræ c		——	5	25,26		——	14 48 25,26		25,24		+0,02	3,125
1695	6	15 Hydræ Con z		——		——	1	44 20	14 48 41,17		43,85		+0,34	3,524
1696	6	1 Serpentis		——		——		——	14 48 ——		56,44		——	3,060
1697	7	17 Libræ	1	7,93	5	7,81		——	14 49 7,83		7,80		+0,03	3,234
1698	6	Bootis		——		——		——	14 49 ——		21,50		——	2,792
1699	7	18 Libræ		——	5	49,23		——	14 49 49,22	49,18	48,98	—0,04	+0,24	3,234
1700	3	7 Ursæ Min. β	2	17,28	4	17,12	10	15,70	14 51 16,46	16,73	16,73	—0,27	—0,27	—0,286
1701	4.5	19 Libræ δ	6	0,54		——		——	14 52 0,54	0,47	0,21	+0,07	+0,33	+3,193
1702	7	Libræ		——	2	12,64	4	12,66	14 53 12,65		12,47		+0,18	3,179
1703	7	Libræ		——		——	3	33,87	14 53 33,86		33,85		+0,01	3,183
1704	5	Lupi π	4	43,43	1	43,15		——	14 53 43,37		43,32		+0,05	4,031
1705	3.4	20 Libræ γ	5	15,49	1	15,53	1	15,50	14 54 15,49	15,48	15,13	+0,01	+0,36	3,490
1706	5	110 Virginis	2	25,08	1	25,23		——	14 54 25,13		24,98		+0,15	3,024
1707	5.6	41 Bootis ω		——		——		——	14 54 ——		44,31		——	2,624
1708	3	42 Bootis β	1	37,05	4	37,36	2	36,86	14 55 37,21	37,11	36,74	+0,10	+0,47	2,261
1709	7	Libræ		——		——		——	14 56 ——		27,60		——	3,456
1710	5	43 Bootis ψ	5	14,90		——		——	14 57 14,90		14,25		+0,65	2,580

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1666	4	45 14,91	4	45 12,70		——	62 45 13,80	45 14,41	45 12,31	—0,61	+ 1,49	+15,579
1667		——		——		——	114 ——		43 24,99		——	15,566
1668		——		——		——	110 ——		27 25,29		——	15,545
1669		——		——		——	104 ——		44 44,28		——	15,543
1670		——	4	19 10,15	1	19 12,95	72 19 10,71	19 11,95	19 10,73	—1,24	— 0,02	15,504
1671		——		——	5	54 52,16	114 54 52,16		54 47,52		+ 4,64	15,493
1672		——	1	12 48,60	4	12 48,07	62 12 48,18	12 48,31	12 48,39	—0,13	— 0,21	15,490
1673		——	5	36 54,26		——	110 36 54,26		36 51,59		+ 2,67	15,489
1674		——		——	4	23 38,47	87 23 38,47	23 42,11	23 35,73	—3,64	+ 2,74	15,485
1675		——		——	1	22 43,97	115 22 43,97		22 40,83		+ 3,14	15,475
1676		——		——		——	115 55 ——		56 9,78		——	15,463
1677		——	1	26 34,20	2	26 34,50	103 26 34,40	26 37,36	26 35,76	—2,96	— 1,36	15,353
1678	3	15 17,39	3	15 17,92		——	117 15 17,65		15 15,45		+ 2,20	15,335
1679	4	52 25,58		——		——	132 52 25,58		52 20,43		+ 5,15	15,321
1680		——		——		——	105 20 ——	17 36,13	17 33,46		——	15,280
1681	8	20 20,38	6	20 23,44	13	20 23,65	105 20 22,64	20 18,23	20 14,27	+4,41	+ 8,37	15,270
1682		——		——	5	5 10,08	107 5 10,08		5 3,99		+ 6,09	15,236
1683		——		——	5	35 38,90	91 35 38,90		35 36,07		+ 2,83	15,229
1684		——		——	1	39 26,55	107 39 26,55		39 21,52		+ 5,03	15,222
1685		——		——		——	60 4 ——		41 3,36		——	15,204
1686		——	5	11 55,39		——	70 11 55,39	11 54,04	11 51,96	+1,35	+ 3,43	15,152
1687		——	5	56 56,11		——	113 56 56,11		56 57,35		— 1,22	15,099
1688		——	4	12 29,17		——	101 12 29,17		12 20,99		+ 8,18	15,060
1689	7	27 1,72		——		——	132 27 1,72		26 57,40		+ 4,32	14,927
1690		——		——	5	39 9,98	110 39 9,98		38 11,05		+ 58,93	14,923
1691	5	43 36,88		——		——	100 43 36,88	43 35,98	43 31,85	+0,90	+ 5,03	14,921
1692		——		——	5	45 35,77	114 45 35,77		45 30,42		+ 5,35	14,918
1693	5	25 25,73		——		——	131 25 25,73		25 25,08		+ 0,65	14,886
1694		——		——	3	39 22,21	93 39 22,21		39 18,83		+ 3,38	14,876
1695		——		——		——	116 58 ——		58 34,94		——	14,859
1696		——		——		——	89 29 ——		29 3,63		——	14,845
1697		——	5	28 31,64		——	100 28 31,64		28 25,91		+ 5,73	14,835
1698		——		——	1	55 46,91	72 55 46,91		55 48,71		— 1,80	14,820
1699		——	5	27 48,77		——	100 27 48,77	27 48,27	27 47,55	+0,50	+ 1,22	14,794
1700		——	3	9 31,71	11	9 36,87	15 9 35,76	9 27,90	9 33,53	+7,86	+ 2,23	14,701
1701		——	1	50 46,30	4	50 46,25	97 50 46,26	50 50,56	50 46,27	—4,30	— 0,01	14,664
1702		——		——	2	54 26,78	96 54 26,78		54 20,11		+ 6,67	14,592
1703		——		——		——	97 10 ——		10 19,73		——	14,571
1704	5	23 13,76		——	3	23 12,59	136 23 13,32		23 7,87		+ 5,45	14,563
1705	5	36 58,96		——		——	114 36 58,96	36 55,98	36 51,84	+2,98	+ 7,12	14,530
1706	1	14 38,25	4	14 37,71		——	87 14 37,81		14 36,45		+ 1,36	14,519
1707		——		——	2	——	64 19 26,09		19 21,23		+ 4,86	14,499
1708	5	56 33,45	1	56 32,79		——	48 56 33,34	56 35,03	56 33,89	—1,69	— 0,55	14,446
1709		——		——	3	——	112 39 48,06		39 46,49		+ 1,57	14,396
1710		——	6	23 25,89		——	62 23 25,89		23 32,55		— 6,66	14,347

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green's Catal.	A. S. Catal.	Difference from		Annual Precession
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1711	6	21 Libræ ν^1	1 16,30	4 16,18	2 16,11	14 57 16,17	16,24	15,79	—0,07	+0,38	+3,328
1712	6.7	22 Libræ ν^2	——	——	5 27,30	14 57 27,28		26,51		+0,77	3,333
1713	5	Lupi λ	1 33,92	——	——	14 57 33,92		34,05		—0,13	3,990
1714	5	44 Bootis i	——	2 15,28	1 15,20	14 58 15,25		13,87		+1,38	1,955*
1715	5	45 Bootis c	7 55,48	1 55,46	——	14 59 55,48		54,71		+0,77	2,617
1716	6	Solitarii	——	——	2 4,59	15 0 4,56		4,22		+0,34	3,475
1717	4	Lupi ζ	4 15,60	1 15,93	——	15 0 15,66		16,85		—1,19	4,254
1718	5	Lupi $\varkappa$	——	——	——	15 0 ——		18,06		——	4,121
1719	6	46 Bootis b	——	——	——	15 1 ——		8,36		——	2,585
1720	6	Bootis	——	——	——	15 1 ——		16,22		——	2,610
1721	5.6	24 Libræ μ^1	1 39,45	5 39,69	——	15 2 39,64	39,64	39,74	0,00	—0,10	3,400
1722	3	Triang Aus γ	——	1 22,50	4 22,31	15 3 22,20		21,93		+0,27	5,444
1723	6.7	25 Libræ μ^2	——	——	4 46,01	15 3 45,99		45,81		+0,18	3,399
1724	5	Circini β	6 26,02	——	——	15 4 26,02		27,20		—1,18	4,618
1725	7	26 Libræ σ	——	2 5,75	——	15 5 5,74		5,66		+0,08	3,365
1726	6.7	Scorpii	——	——	1 39,88	15 6 39,86		39,60		+0,26	3,456
1727	6	3 Serpentis	——	——	——	15 6 ——		50,67		——	2,973
1728	5	Lupi μ	4 53,61	1 53,58	——	15 6 53,60		54,06		—0,46	4,119
1729	6	4 Serpentis	——	——	4 16,25	15 7 16,25		15,29		+0,96	3,051
1730	5	48 Bootis $\varkappa$	6 27,90	1 27,84	——	15 7 27,89		27,50		+0,39	2,510
1731	4.5	2 Lupi f	——	5 38,09	——	15 7 38,07	37,94	37,73	+0,13	+0,34	3,620
1732	2.3	27 Libræ β	2 58,72	1 58,52	——	15 7 58,65	58,71	58,43	—0,06	+0,22	3,218
1733	3.4	49 Bootis δ	1 44,07	2 43,83	1 43,50	15 8 43,83	43,90	43,39	—0,07	+0,44	2,408
1734	5	Lupi δ	——	——	3 22,67	15 10 22,62		22,64		—0,02	3,896
1735	5	Lupi ν	——	——	2 29,12	15 10 29,05		28,85		+0,20	4,137
1736	5.6	5 Serpentis	——	——	——	15 10 ——		43,65		——	3,026
1737	6	Bootis	——	——	——	15 10 ——		52,56		——	2,685
1738	5	Lupi Φ^1	2 10,33	——	1 10,61	15 11 10,40		10,34		+0,06	3,777
1739	4.5	Lupi ε	——	3 18,06	1 18,08	15 11 18,03		18,52		—0,49	4,026
1740	6	28 Libræ υ	——	2 22,99	——	15 11 22,98		22,99		—0,01	3,381
1741	7	29 Libræ o^1	——	——	2 40,52	15 11 40,50		38,70		+1,80	3,332
1742	5	Lupi Φ^2	6 27,12	——	——	15 12 27,12		27,16		—0,04	3,797
1743	6	6 Serpentis	——	——	——	15 12 ——		27,92		——	3,045
1744	6	30 Libræ o^2	——	——	——	15 13 ——		40,31		——	3,327
1745	6	7 Serpentis	——	——	5 26,13	15 14 26,15		25,74		+0,41	2,833
1746	6	Libræ	1 39,65	3 39,95	1 39,96	15 14 39,89		39,69		+0,20	3,277
1747	5.6	31 Libræ ε	——	6 6,21	——	15 15 6,21		6,00		+0,21	3,240
1748	5.6	9 Serpentis	——	——	5 0,16	15 18 0,18		59,67		+0,51	2,776
1749	4	51 Bootis μ	8 8,65	——	——	15 18 8,65	8,78	8,21	—0,13	+0,44	2,275
1750	6	32 Libræ ζ^1	2 47,68	3 47,61	2 47,58	15 18 47,61		47,87		—0,26	3,362
1751	5.6	10 Serpentis	——	——	5 9,66	15 20 9,66		9,16		+0,50	3,024
1752	7	Libræ	——	——	——	15 20 ——		41,35		——	3,375
1753	4	3 Cor Bor β	——	7 54,37	——	15 20 54,59	54,34	54,23	+0,05	+0,16	2,483
1754	3.4	13 Ursæ Min γ^2	1 3,03	——	——	15 21 3,03	3,81	2,76	—0,78	+0,27	—0,179
1755	6	34 Libræ ζ^3	——	1 12,70	——	15 21 12,69		12,07		+0,62	+3,363

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1711		——	1	36 1,60	2	36 1,85	105 36 1,77	35 58,50	35 55,83	+3,27	+ 5,94	+14,347
1712		——	5	49 42,81		——	105 49 42,81		49 35,42		+ 7,39	14,336
1713		——		——	5	37 37,33	134 37 37,33		37 29,42		+ 7,91	14,330
1714		——		——	5	41 18,81	41 41 18,81		41 19,33		— 0,52	14,285
1715	5	28 20,19		——		——	64 28 20,19		28 19,63		+ 0,56	14,183
1716		——	4	20 12,46		——	113 20 12,46		20 10,94		+ 1,52	14,175
1717	5	27 10,61		——		——	141 27 10,61		27 8,47		+ 2,14	14,164
1718	3	5 27,13	2	5 26,61		——	138 5 26,92		5 29,46		— 2,54	14,162
1719		——		——	3	——	63 2 58,66		2 58,86		— 0,20	14,107
1720		——		——	2	——	64 14 38,27		14 38,81		— 0,54	14,099
1721		——	5	8 56,41		——	109 8 56,41	8 58,93	8 57,99	−2,52	— 1,58	14,014
1722		——		——	5	2 54,17	158 2 54,17		2 54,01		+ 0,16	13,974
1723		——		——	3	——	109 0 21,37		0 27,56		— 6,19	13,945
1724		——	5	9 53,23		——	148 9 53,23		9 52,39		+ 0,84	13,904
1725		——		——	2	——	107 8 7,99		8 2,08		+ 5,91	13,861
1726		——		——	3	——	111 46 18,71		46 16,55		+ 2,16	13,762
1727		——	4	25 54,59		——	84 25 54,59		25 49,02		+ 5,57	13,749
1728	3	14 58,99		——	1	14 59,86	137 14 59,21		14 48,18		+ 11,03	13,748
1729		——		——	3	0 1,09	89 0 1,09		0 1,64		— 0,55	13,723
1730	4	12 32,02		——	1	12 31,67	60 12 31,95		12 19,33		+ 12,62	13,709
1731		——		——	5	31 29,45	119 31 29,45	31 25,78	31 28,71	+3,67	+ 0,74	13,700
1732	5	45 23,49		——		——	98 45 23,49	45 26,80	45 23,04	−3,31	+ 0,45	13,678
1733		——	6	3 15,79		——	56 3 15,79	3 14,04	3 10,71	+1,75	+ 5,08	13,628
1734		——	1	2 1,59	4	2 0,72	130 2 0,89		1 50,70		+ 10,19	13,525
1735		——		——	5	18 30,89	137 18 30,89		18 29,28		+ 1,61	13,518
1736		——		——	3	——	87 35 34,98		35 35,00		— 0,02	13,500
1737		——		——	2	——	68 48 24,79		48 28,00		— 3,21	13,490
1738	2	38 43,80		——	2	38 45,10	125 38 44,45		38 40,00		+ 4,45	13,473
1739		——	5	4 37,56		——	134 4 37,56		4 33,35		+ 4,21	13,465
1740		——		——		——	107 32 ——		32 26,38		——	13,458
1741		——		——		——	104 56 ——		56 2,86		——	13,441
1742	5	14 56,97		——		——	126 14 56,97		14 54,86		+ 2,11	13,390
1743		——	5	40 3,25		——	88 40 3,25		40 2,88		+ 0,37	13,387
1744		——		——	1	31 45,39	104 31 45,39		31 26,28		+ 19,11	13,309
1745		——	4	49 33,25	2	49 31,58	76 49 32,69		49 27,35		+ 5,34	13,259
1746		——		——	2	45 50,54	101 45 50,54		45 47,86		+ 2,68	13,244
1747		——		——	2	42 49,15	99 42 49,15		42 39,97		+ 9,18	13,216
1748		——	5	58 29,75		——	73 58 29,75		58 27,97		+ 1,78	13,023
1749	5	1 49,15		——	1	1 47,31	52 1 48,84	1 46,87	1 41,52	+1,97	+ 7,32	13,013
1750		——	2	7 28,86	3	7 27,46	106 7 28,02		7 20,87		+ 7,15	12,971
1751		——		——	4	34 6,44	87 34 6,44		34 1,76		+ 4,68	12,880
1752		——		——		——	106 41 18,12		41 19,76		——	12,844
1753	5	18 40,07		——		——	60 18 40,07	18 38,28	18 35,42	+1,79	+ 4,65	12,828
1754	5	34 4,46		——		——	17 31 4,46	35 5,20	34 3,43	− 0,74	+ 1,03	12,813
1755		——	4	1 38,09		——	106 1 38,09		1 33,67		+ 4,42	12,810

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1756	3	12 Draconis ι	1	12,08	4	12,24		——	15 21 12,24	12,08	11,80	+0,16	+0,44	+1,319
1757	5	Triang Aus ε		——		——		——	15 21 ——		27,44		——	5,349
1758	6.7	Libræ		——	1	58,46	2	58,66	15 22 58,58		58,35		+0,23	3,426
1759	6	35 Libræ ζ^4		——	1	26,54	2	26,71	15 23 26,63	26,64	25,97	—0,01	+0,66	3,370
1760	4	Lupi γ	3	58,73		——		——	15 23 58,73		58,67		+0,06	3,957
1761	6	11 Serpentis		——		——	4	19,25	15 24 19,25		18,57		+0,68	3,079
1762	6	36 Libræ		——	1	27,30		——	15 24 27,28		26,94		+0,34	3,608
1763	4	37 Libræ f^1	7	0,43		——		——	15 25 0,43	0,37	0,02	+0,06	+0,41	3,242
1764	4.5	38 Libræ γ	3	8,24	3	8,35	1	8,48	15 26 8,26	8,46	8,58	—0,20	—0,32	3,333
1765	4.5	4 Cor Bor θ		——	2	9,65	3	9,43	15 26 9,56	9,48	8,91	+0,08	+0,65	2,416
1766	5	Lupi ι		——		——	2	46,11	15 26 46,05		46,01		+0,04	4,012
1767	3	13 Serpentis δ		——		——	1	47,10	15 26 47,11	47,04	46,60	+0,07	+0,51	2,862
1768	5	39 Libræ		——		——		——	15 26 ——		50,46		——	3,615
1769	7	Scorpii		——		——		——	15 27 ——		24,52		——	3,574
1770	2	5 Cor Bor α	1	34,71	15	34,62	22	34,63	15 27 34,65	34,65	34,15	0,00	+0,50	2,526
1771	6	15 Serpentis		——		——		——	15 27 ——		55,69		——	2,721
1772	6	14 Serpentis A^1		——		——		——	15 27 ——		56,74		——	3,068
1773	7	Libræ		——		——		——	15 28 ——		3,90		——	3,619
1774	4.5	40 Libræ	6	21,56		——		——	15 28 21,56	21,68	21,20	—0,12	+0,36	3,657
1775	6	16 Serpentis		——		——	3	25,75	15 28 25,76		25,17		+0,59	2,871
1776	6	18 Serpentis τ^2		——		——		——	15 28 ——		45,00		——	2,752
1777	5	6 Cor Bor μ	1	4,91	1	5,03		——	15 29 4,97		4,85		+0,12	2,195
1778	6	41 Libræ Φ		——		——		——	15 29 ——		14,91		——	3,427
1779	5	Lupi g		——		——		——	15 29 ——		40,77		——	4,093
1780	5.6	42 Libræ χ		——	3	21,76		——	15 30 21,75	22,02	21,63	—0,27	+0,12	3,524
1781	5	43 Libræ κ	7	16,88		——	2	17,02	15 32 16,91	16,98	16,75	—0,07	+0,16	3,438
1782	5	7 Cor Bor ζ	4	3,32		——		——	15 33 3,32		2,77		+0,55	2,256
1783	6	19 Serpentis τ^3		——		——	3	15,96	15 33 15,98		15,47		+0,51	2,749
1784	5.6	20 Serpentis χ		——		——	3	53,48	15 33 53,50		52,94		+0,56	2,812
1785	5	21 Serpentis ι	6	3,93		——		——	15 34 3,93		3,13		+0,80	2,672
1786	6	22 Serpentis		——		——	1	21,52	15 34 21,54		20,89		+0,65	2,698
1787	4.5	44 Libræ η	2	38,15	4	38,25	2	38,14	15 34 38,19	38,19	37,83	0,00	+0,36	3,359
1788	7	Libræ		——	2	0,55		——	15 34 0,54		——		——	3,346
1789	6	23 Serpentis ψ		——		——	2	35,43	15 35 35,45		35,22		+0,23	3,010
1790	6	8 Cor Bor γ		——		——		——	15 35 ——		40,48		——	2,522
1791	2.3	24 Serpentis α		——	11	59,95	20	59,94	15 35 59,95	59,93	59,77	+0,02	+0,18	+2,936
1792	5	15 Ursæ Min. θ		——		——		——	15 36 ——		35,25		——	—1,990
1793	6	26 Serpentis		——		——	4	4,37	15 37 4,39		3,29		+1,10	+2,720
1794	6	25 Serpentis A^2		——		——	3	24,96	15 37 24,96		24,49		+0,47	3,092
1795	4.5	27 Serpentis λ	6	17,86		——	3	17,89	15 38 17,87	17,86	17,61	+0,01	+0,26	2,917
1796	3.4	28 Serpentis β	6	26,22		——		——	15 38 26,22	26,05	25,87	+0,17	+0,35	2,757
1797	4.5	5 Lupi χ	4	18,28	1	18,43		——	15 40 18,30	18,22	18,21	+0,08	+0,09	3,782
1798	3	Triang Aus β	1	25,63	1	25,75		——	15 40 25,66		26,22		+0,56	5,208
1799	3.4	32 Serpentis μ		——		——	5	51,75	15 40 51,75	51,66	51,61	+0,09	+0,14	3,124
1800	5	1 Scorpii b		——		——	2	53,61	15 40 53,58		53,09		+0,49	3,585

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1756	5	26 37,72		——		——	30 26 37,72	26 35,58	26 35,88	+2,14	+ 1,84	+12,806
1757		——		——	5	44 31,34	155 44 31,34		44 31,57		— 0,23	12,797
1758		——		——	2	——	109 5 27,75		5 28,56		— 0,81	12,691
1759		——		——	3	——	106 16 35,40	16 35,87	16 31,48	—0,47	+ 3,92	12,659
1760	2	35 40,85	5	35 41,59		——	130 35 41,38		35 35,00		+ 6,38	12,624
1761		——		——	4	36 39,57	90 36 39,57		36 37,79		+ 1,78	12,599
1762		——		——	3	——	117 28 13,82		28 22,48		— 8,66	12,591
1763		——		——	4	28 59,60	99 28 59,60	28 56,20	28 55,62	+3,40	+ 3,98	12,552
1764	3	13 21,85		——	1	13 22,53	104 13 22,02	13 21,96	13 15,28	+0,06	+ 6,74	12,475
1765		——		——	3	4 8,72	58 4 8,72	4 9,16	4 7,36	—0,44	+ 1,36	12,472
1766		——		——	2	0 32,11	132 0 32,11		0 27,26		+ 4,85	12,433
1767		——		——	3	——	78 53 37,36	53 39,87	53 33,96	—2,51	+ 3,40	12,430
1768		——		——	2	——	117 34 15,08		34 15,86		— 0,78	12,427
1769		——		——	3	——	115 43 3,08		42 58,70		+ 4,38	12,388
1770	8	42 52,53	13	42 52,48	24	42 54,15	62 42 53,38	42 54,22	42 49,48	—0,84	+ 3,90	12,375
1771		——		——	1	46 46,25	71 46 46,25		46 43,31		+ 2,94	12,351
1772		——		——	3	——	89 59 57,15		59 50,84		+ 6,31	12,350
1773		——		——		——	117 38 ——		38 42,88		——	12,343
1774	4	13 5,05	3	13 5,09		——	119 13 5,06	13 3,77	13 1,72	+1,29	+ 3,34	12,324
1775		——		——		——	79 25 ——		25 16,65		——	12,317
1776		——		——		——	73 19 ——		19 7,87		——	12,291
1777		——	1	25 40,82	4	25 43,14	50 25 42,68		25 35,02		+ 7,66	12,270
1778		——		——	3	——	108 44 27,25		44 28,58		— 1,33	12,261
1779	1	5 48,21		——	2	5 49,66	134 5 49,21		5 36,60		+ 12,61	12,233
1780		——		——	3	——	113 15 52,12	15 53,28	15 48,61	—1,16	+ 3,51	12,184
1781		——		——	5	7 39,48	109 7 39,48	7 38,64	7 32,86	+0,84	+ 6,62	12,050
1782	1	48 51,22	1	48 49,97	3	48 51,04	52 48 50,77		48 48,02		+ 2,75	11,994
1783		——	1	25 37,19	5	25 38,85	73 25 38,57		25 36,47		+ 2,10	11,980
1784		——		——	1	36 28,18	76 36 28,18		36 26,04		+ 2,14	11,937
1785	5	47 3,11		——		——	69 47 3,11		46 58,00		+ 5,11	11,924
1786		——		——	3	——	70 59 43,88		59 39,47		+ 4,41	11,904
1787	4	7 55,06	2	7 55,89		——	105 7 55,34	7 51,33	7 46,92	+4,01	+ 8,42	11,885
1788		——		——	3	——	104 29 52,13		29 40,71		+ 11,42	11,858
1789		——		——	3	56 26,46	86 56 26,46		56 19,69		+ 6,77	11,817
1790		——		——		——	63 10 0,63		9 56,58		+ 4,05	11,810
1791	7	2 23,27	5	2 22,38	19	2 23,28	83 2 23,14	2 24,01	2 22,55	— 0,87	+ 0,59	11,788
1792	1	5 41,41		——	5	5 42,04	12 5 41,94		5 41,81		+ 0,13	11,734
1793		——		——	3	——	72 12 8,99		12 2,05		+ 6,94	11,712
1794		——		——	3	——	91 16 17,26		16 16,27		+ 0,99	11,688
1795	5	6 54,83		——		——	82 6 51,83	6 53,98	6 53,26	+0,85	+ 1,57	11,625
1796		——		——	5	2 47,97	74 2 47,97	2 49,64	2 41,14	—1,67	+ 6,83	11,615
1797		——	3	6 30,10	2	6 27,18	123 6 28,93	6 24,44	6 26,67	+4,49	+ 2,26	11,483
1798	1	54 2,06		——	4	54 2,88	152 54 2,71		53 51,07		+ 11,64	11,477
1799	3	54 33,71		——	1	54 32,86	92 54 33,50	54 35,61	54 30,15	—2,11	+ 3,35	11,442
1800		——		——	3	——	115 14 2,30		13 59,79		+ 2,51	11,441

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832		Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
				No.	1831	No.	1832	No.	1833					Green.	A. S.	
					s.		s.		s.	h.	m.	s.	s.	s.	s.	s.
1801	4	35 Serpentis	$\varkappa$		——		——	3	11,04	15	41	11,06	10,84	10,42	+0,22	+0,64	+2,697
1802	6	34 Serpentis	ω		——		——	3	49,28	15	41	49,28		48,90		+0,38	3,016
1803	3	37 Serpentis	ε		——		——	2	26,79	15	42	26,79	26,82	26,65	—0,03	+0,14	2,972
1804	6	36 Serpentis	b		——		——		——	15	42	——		30,64		——	3,118
1805	4.5	10 Cor Bor	δ		——		——		——	15	42	——	33,11	32,54		——	2,516
1806	5	2 Scorpii	A^1	2	32,60		——		——	15	43	32,60	32,64	31,97	—0,04	+0,63	3,579
1807	5	45 Libræ	λ	1	35,75		——		——	15	43	35,75	35,75	35,33	0,00	+0,42	3,463
1808	6	Scorpii	f^1		——		——		——	15	43	——		52,77		——	3,561
1809	5	38 Serpentis	ρ		——		——	3	53,44	15	43	53,46	53,35	52,52	+0,11	+0,94	2,632
1810	6	Scorpii	f^2		——		——	1	57,19	15	43	57,17		56,84		+0,33	3,549
1811	4.5	46 Libræ	θ	5	16,39		——		——	15	44	16,39	16,41	16,59	—0,02	—0,20	3,390
1812	6	3 Scorpii	A^2		——		——	3	35,53	15	44	35,51		35,16		+0,35	3,579
1813	5	11 Cor Bor	$\varkappa$		——	4	53,96		——	15	44	53,98		53,79		+0,19	2,256
1814	7	47 Libræ			——	1	18,74	2	18,62	15	45	18,64		18,22		+0,42	3,448
1815	6.7	4 Scorpii			——		——	3	21,91	15	45	21,91		21,72		+0,19	3,604
1816	4	5 Scorpii	ρ	2	31,89		——	2	32,16	15	46	32,01	31,88	31,66	+0,13	+0,35	3,679
1817	6	Serpentis			——		——		——	15	47	——		10,67		——	2,643
1818	3.4	6 Scorpii	π	5	42,31		——		——	15	48	42,31	42,46	42,24	—0,15	+0,07	3,606
1819	3	41 Serpentis	γ		——		——	3	41,34	15	48	41,36	41,85	41,79	—0,49	—0,43	2,741
1820	5	48 Libræ	ψ		——		——	3	47,55	15	48	47,53	47,45	47,42	+0,08	+0,11	3,343
1821	5	Lupi	η		——		——		——	15	49	——		0,85		——	3,943
1822	6	Serpentis			——		——	3	29,81	15	49	29,82		29,52		+0,30	2,769
1823	3	7 Scorpii	δ	5	24,79	1	24,81		——	15	50	24,79	24,80	24,85	—0,01	—0,06	+3,527
1824	4	16 Ursæ Min	ζ		——		——		——	15	50	——	13,92	13,23		——	—2,384
1825	4.5	13 Cor Bor	ε	4	38,11		——		——	15	50	38,11	38,18	38,08	—0,07	+0,03	+2,484
1826	5.6	49 Libræ			——	2	54,72	3	54,80	15	50	54,75		54,26		+0,49	3,342
1827	6	50 Libræ			——		——	2	44,30	15	51	44,30		43,89		+0,41	3,226
1828	6	3 Herculis			——		——	3	31,19	15	52	31,19		30,84		+0,35	2,971
1829	6	Scorpii			——		——	5	12,63	15	53	12,62		12,25		+0,37	3,607
1830	6	5 Herculis	r		——		——	4	41,59	15	53	41,61		41,18		+0,43	2,692
1831	5	Normæ	δ	2	38,50		——	1	39,11	15	54	38,77		39,02		—0,25	4,197
1832	4.5	44 Serpentis	π		——		——	2	3,42	15	55	3,45	3,92	3,19	—0,47	+0,26	2,577
1833	4.5	51 Libræ	ξ	5	8,54		——		——	15	55	8,54	8,33	8,23	+0,21	+0,31	3,288
1834	6	43 Serpentis			——		——	2	27,64	15	55	27,64		26,92		+0,72	2,959
1835	4	Lupi	θ		——		——		——	15	55	——		34,74		——	3,909
1836	2	8 Scorpii	β	8	40,95	6	40,78		——	15	55	40,87	40,90	40,93	—0,03	—0,06	3,469
1837	4.5	9 Scorpii	ω_1	5	59,68		——		——	15	56	59,68	59,68	59,74	0,00	—0,06	3,490
1838	4.5	10 Scorpii	ω_2		——		——		——	15	57	——	34,04	33,67		——	3,496
1839	5	6 Herculis	υ		——		——		——	15	57	——	33,98	33,19		——	1,856
1840	6	Scorpii	m		——		——	3	54,21	15	57	54,19		53,69		+0,50	3,626
1841	6	11 Scorpii			——		——	4	17,44	15	58	17,43		17,17		+0,26	3,319
1842	3.4	13 Draconis	θ		——		——	3	44,46	15	58	44,59		45,90		—1,31	1,147
1843	6	45 Serpentis	g_1		——		——	3	36,93	15	59	36,95		36,29		+0,66	2,857
1844	6	46 Serpentis	g_2		——		——	4	5,75	16	0	5,77		5,20		+0,57	2,853
1845	5	Triang Aus	δ	4	13,30	1	13,22		——	16	0	13,27		14,59		—1,32	5,363

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1801		——		——	5	20 3,31	71 20 3,31	20 3,33	19 58,82	—0,02	+ 4,49	+ 11,418
1802		——		——	1	17 6,04	87 17 6,04		17 2,71		+ 3,33	11,373
1803	1	0 44,29		——	3	0 44,24	85 0 44,25	0 38,95	0 36,66	+5,30	+ 7,59	11,327
1804		——		——	3	——	92 34 31,05		34 29,19		+ 1,86	11,323
1805	5	24 42,48		——		——	63 24 42,48	24 44,02	24 39,27	—1,54	+ 3,21	11,319
1806	2	49 9,52		——		——	114 49 9,52	49 3,89	49 2,91	+5,63	+ 6,61	11,250
1807		——		——	2	39 31,83	109 39 31,83	39 29,55	39 23,72	+2,28	+ 8,11	11,246
1808		——		——	3	——	114 1 29,54		1 29,16		+ 0,38	11,225
1809		——		——	3	30 39,01	68 30 39,01	30 42,59	30 38,07	—3,58	+ 0,94	11,223
1810		——		——	3	——	113 28 10,99		28 10,89		+ 0,10	11,220
1811		——	3	13 47,89	2	13 46,58	106 13 47,37	13 45,88	13 42,46	+1,49	+ 4,91	11,196
1812		——		——		——	114 44 ——		44 14,84		——	11,174
1813	2	48 59,65		——		——	53 48 59,65		48 57,33		+ 2,32	11,148
1814		——		——	3	——	108 52 45,36		52 43,88		+ 1,48	11,121
1815		——		——		——	115 45 ——		45 45,44		——	11,117
1816		——		——	5	42 56,20	118 42 56,20	42 48,47	42 55,26	+7,73	+ 0,94	11,033
1817		——		——	3	11 28,85	69 11 28,85		11 28,92		— 0,07	10,983
1818	5	37 24,84		——		——	115 37 24,84	37 21,35	37 21,32	+3,49	+ 3,52	10,873
1819	6	47 1,29		——		——	73 47 1,29	47 4,47	47 1,12	—3,18	+ 0,17	12,182*
1820		——		——	5	47 13,99	103 47 13,99		47 13,44		+ 0,55	10,866
1821		——		——	4	54 24,49	127 54 24,49		54 24,43		+ 0,06	10,851
1822		——		——	3	——	75 5 56,94		5 55,27		+ 1,67	10,813
1823	6	8 12,79		——		——	112 8 12,79	8 9,35	8 3,85	+3,44	+ 8,94	10,747
1824		——	2	41 32,68	1	41 33,89	11 41 33,08	41 34,20	41 35,38	—1,12	— 2,30	10,747
1825		——		——	4	37 49,57	62 37 49,57	37 51,22	37 48,16	—1,65	+ 1,41	10,728
1826		——		——	3	——	106 1 55,47		1 53,83		+ 1,64	10,710
1827		——		——	3	——	97 55 44,80		55 41,40		+ 3,40	10,649
1828		——		——	3	——	85 5 50,89		5 45,70		+ 5,19	10,590
1829		——		——	3	——	115 23 28,91		23 19,53		+ 4,38	10,540
1830		——		——	3	42 42,98	71 42 42,98		42 41,96		+ 1,02	10,502
1831	4	42 33,43	1	42 32,49		——	134 42 33,24		42 27,26		+ 5,98	10,434
1832	5	43 24,85		——		——	66 43 24,85	43 26,97	43 21,74	—2,12	+ 3,11	10,400
1833		——		——	5	54 11,97	100 54 11,97	54 11,88	54 6,15	+0,09	+ 5,82	10,395
1834		——		——	3	——	84 32 41,90		32 36,62		+ 5,28	10,371
1835		——	1	20 14,29	5	20 12,64	126 20 13,75		20 10,86		+ 2,89	10,364
1836	2	20 19,29	1	20 17,73	2	20 18,88	109 20 18,81	20 17,76	20 14,23	+1,05	+ 4,58	10,355
1837		——		——	4	12 30,75	110 12 30,75	12 25,47	12 20,12	+5,28	+ 10,63	10,257
1838		——		——	4	24 31,62	110 24 31,62	24 26,67	24 19,54	+4,95	+ 12,08	10,214
1839	4	29 33,22		——		——	43 29 33,22	29 37,33	29 35,03	—4,11	— 1,81	10,211
1840		——		——	3	52 11,39	115 52 11,39		52 7,13		+ 4,26	10,189
1841		——		——	3	——	102 17 10,42		17 8,88		+ 1,54	10,159
1842	6	59 4,09	1	59 3,40		——	30 59 3,92	59 4,21	59 2,01	—0,29	+ 1,91	10,118
1843		——		——	4	39 13,87	79 39 13,87		39 3,07		+ 10,80	10,058
1844		——		——		——	79 27 55,48		27 48,27		+ 7,21	10,022
1845	4	14 39,27	1	14 42,01		——	153 14 39,82		14 36,33		+ 3,49	10,016

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in No. 1831	Mean A. R. January 1, 1832, from Observations in No. 1832	Mean A. R. January 1, 1832, from Observations in No. 1833	Mean A. R. January 1, 1832	Greenh Catal.	A S. Catal.	Difference from Green.	Difference from A. S.	Annual Precession
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1846	6	47 Serpentis	——	——	2 22,61	16 0 22,62		22,06		+0,56	+2,885
1847	5.6	7 Herculis μ^1	——	——	——	16 0 ——		29,23		——	2,703
1848	6	Scorpii	——	——	——	16 0 ——		37,07		——	3,709
1849	6	12 Scorpii c_1	——	——	3 54 25	16 1 54,23		53,73		+0,50	3,685
1850	5	13 Scorpii c^2	——	——	——	16 1 ——		58,80		——	3,673
1851	4	14 Scorpii ν	6 14,69	——	——	16 2 14,69	14,66	14,74	+0,03	—0,05	3,469
1852	5	15 Scorpii χ	1 49,46	——	3 49,68	16 2 49,62		49,37		+0,25	3,265
1853	6	16 Scorpii	——	——	——	16 3 ——		1,17		——	3,234
1854	6	Scorpii	——	2 48,70	——	16 3 48,69		48,69		0,00	3,515
1855	6	48 Serpentis	——	——	——	16 3 ——		52,14		——	2,708
1856	6	10 Herculis T	——	——	——	16 4 ——		28,57		——	2,549
1857	6	17 Scorpii χ	——	——	3 34,07	16 4 34,06		33,80		+0,26	3,304
1858	6	9 Herculis h	——	——	4 57,29	16 4 57,29		56,88		+0,41	2,956
1859	3	1 Ophiuchi δ	——	5 33,11	13 33,00	16 5 33,03	32,95	32,60	+0,08	+0,43	3,135
1860	5	18 Scorpii n	6 29,92	——	——	16 6 29,92		29,43		+0,49	3,231
1861	7	Scorpii	1 11,04	——	3 10,75	16 7 10,81		10,95		—0,14	3,489
1862	5	Normæ γ^2	5 18,44	——	——	16 7 18,44		18,08		+0,36	4,458
1863	5	Apodis γ	——	——	——	16 7 Invis.		59,46		——	8,860
1864	5.6	Scorpii d	——	——	3 53,83	16 7 53,84		53,64		+0,20	3,700
1865	6	Ophiuchi	——	——	4 5,70	16 8 5,70		——		——	3,141
1866	6	Scorpii P	——	——	——	16 8 ——		55,83		——	3,764
1867	6	17 Herculis	——	——	3 7,08	16 9 7,10		6,94		+0,16	2,553
1868	7	Scorpii	——	3 18,26	——	16 9 18,24		17,74		+0,50	3,494
1869	3	2 Ophiuchi ε	5 26,38	——	——	16 9 26,38	26,32	26,16	+0,06	+0,22	3,156
1870	6	18 Cor Bor ν	——	——	2 1,06	16 10 1,09		0,72		+0,37	2,395
1871	5.6	19 Scorpii o	——	——	3 32,54	16 10 32,52	32,39	32,20	+0,13	+0,32	3,590
1872	4	20 Scorpii σ	1 59,56	4 59,37	1 59,30	16 10 59,40	59,42	59,31	—0,02	+0,09	3,626
1873	5	50 Serpentis σ	4 34,13	——	2 34,33	16 13 34,20		34,55		—0,35	3,038
1874	5	4 Ophiuchi $\downarrow$	6 17,12	3 17,04	——	16 14 17,09	17,05	17,00	+0,01	+0,09	3,495
1875	3.4	20 Herculis γ	5 30,73	——	1 30,71	16 14 30,73	30,71	30,49	+0,02	+0,24	2,643
1876	4	22 Herculis τ	——	——	5 41,47	16 14 41,52	41,73	41,60	—0,21	—0,08	1,797
1877	5	5 Ophiuchi g	——	——	3 31,36	16 15 31,34	31,68	31,37	—0,29	—0,03	3,578
1878	7	Scorpii	——	——	2 31,56	16 15 31,54		31,61		—0,07	3,577
1879	5	19 Cor Bor ξ	——	——	3 33,02	16 15 33,05		33,13		—0,08	2,359
1880	5	20 Cor Bor ν^1	——	——	5 2,09	16 16 2,12		1,84		+0,28	2,252
1881	5	21 Cor Bor ν^2	——	——	——	16 16 ——		9,14		——	2,255
1882	5	7 Ophiuchi χ	3 17,82	3 17,91	2 18,05	16 17 17,91		17,08		+0,83	3,461
1883	5	51 Serpentis ω	1 40,02	——	——	16 17 40,02		40,24		—0,22	2,758
1884	5	3 Ophiuchi ν	——	——	3 43,63	16 18 43,63		43,02		+0,61	3,237
1885	1	21 Scorpii α	——	14 7,33	14 7,24	16 19 7,26	7,09	7,35	+0,17	—0,09	3,659
1886	5	Apodis β	——	——	——	16 19 Invisible		29,54		——	8,362
1887	5	25 Herculis	——	——	4 24,97	16 19 25,01		24,76		+0,25	2,130
1888	6	22 Scorpii i	——	——	——	16 20 ——		0,47		——	3,626
1889	5	Normæ α	5 25,38	——	——	16 20 25,38		25,46		—0,08	3,895
1890	7	Scorpii	——	——	3 4,95	16 21 4,92		4,88		+0,04	3,664

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1846		——		——	3	——	81 0 47,38		0 47,81		— 0,43	+10,001
1847		——		——	3	——	72 29 56,64		29 57,37		— 0,73	9,991
1848		——		——	3	——	118 57 50,90		57 48,91		+ 1,99	9,984
1849		——		——	3	——	117 58 16,30		58 16,88		— 0,58	9,887
1850	2	28 55,72		——		——	117 28 55,72		28 55,61		+ 0,11	9,880
1851		——		——	5	0 55,32	109 0 55,32	0 59,03	0 59,78	—3,71	— 4,46	9,860
1852		——		——	4	37 23,39	99 37 23,39		37 16,75		+ 6,64	9,815
1853		——		——	1	6 21,91	98 6 21,91		6 18,35		+ 3,56	9,800
1854		——		——	4	57 51,16	110 57 51,16		57 48,92		+ 2,24	9,740
1855		——		——	3	——	72 53 34,90		53 31,77		+ 2,13	9,734
1856		——		——	3	——	66 3 54,83		3 55,52		— 0,69	9,687
1857		——		——	3	——	101 24 6,58		24 7,55		— 0,97	9,682
1858		——		——	3	32 38,34	84 32 38,34		32 33,59		+ 4,75	9,652
1859	6	15 16,59	1	15 16,34	6	15 17,81	93 15 17,13	15 18,17	15 13,51	—1,04	+ 3,62	9,607
1860	5	55 3,12		——		——	97 55 3,12		55 0,71		+ 2,41	10,064*
1861		——		——	4	40 48,35	109 40 48,35		40 42,64		+ 5,71	9,482
1862		——		——	5	44 6,08	139 44 6,08		44 1,01		+ 5,07	9,475
1863		——		——		——	168 29 Invisible		29 58,87		——	9,433
1864		——		——	4	11 16 50	118 11 16 50		11 11,82		+ 4,68	9,427
1865		——		——	4	31 48,91	98 31 48,91		31 51,98		— 3,07	9,410
1866		——		——	3	——	120 29 28,32		29 27,31		+ 1,01	9,347
1867		——		——	3	——	66 27 14,10		27 10,93		+ 3,17	9,330
1868		——		——	3	——	109 48 5,90		48 1,43		+ 4,47	9,318
1869	5	16 33,86		——		——	94 16 33,86	16 35,50	16 29,77	—1,64	+ 4,09	9,306
1870		——		——	5	25 47,71	60 25 47,71		25 40,37		+ 7,34	9,260
1871		——		——	4	45 21,06	113 45 21,06	45 22,45	45 22,50	—1,39	— 1,44	9,222
1872	5	10 58,01	1	10 58,11		——	115 10 58,03	10 54,35	10 49,07	+3,68	+ 8,96	9,187
1873	4	34 9,63	1	34 7,61		——	88 34 9,23		34 8,87		+ 0,36	8,984
1874		——	1	38 12,68	3	38 15,22	109 38 14,59	38 11,65	38 9,22	+2,94	+ 5,37	8,930
1875	2	26 50,03		——	4	26 51,06	70 26 50,72	26 48,81	26 48,08	+1,91	+ 7,64	8,910
1876		——		——	5	16 56,82	43 16 56,82	16 58,83	17 11,25	—2,01	— 14,43	8,893
1877		——		——	5	3 7,42	113 3 7,42	3 8,68	3 2,95	—1,26	+ 4,47	8,833
1878		——		——	1	0 35,91	113 0 35,91		0 35,37		+ 0,54	8,833
1879	5	42 45,41		——		——	58 42 45,41		42 45,15		+ 0,26	8,827
1880		——		——	5	48 5,07	55 48 5,07		48 0,21		+ 4,86	8,790
1881		——		——	3	——	55 54 3,65		54 2,51		+ 1,14	8,780
1882		——	1	3 59,35	4	4 2,01	108 4 1,48		3 59,39		+ 2,09	8,694
1883		——		——	4	34 28,69	75 34 28,69		34 17,76		+ 10 93	8,662
1884	5	59 15,45		——		——	97 59 15,45		59 17,51		— 2,06	8,580
1885	5	3 4,58	10	3 5,20	13	3 4,74	116 3 4,88	3 3,03	3 1,25	+1,85	+ 3,63	8,550
1886		——		——		——	167 8 Invisible		8 23,92		——	8,533
1887	4	13 8,88		——	2	13 9,49	52 13 9,08		13 3,86		+ 5,22	8,522
1888		——		——	3	——	114 44 17,24		44 9,98		+ 7,26	8,479
1889		——	1	19 48,92	4	19 49,21	124 19 49,09		19 45,33		+ 3,76	8,447
1890		——		——	3	——	116 9 46,50		9 46,81		— 0,31	8,394

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
1891	4.5	8 Ophiuchi Φ	6	32,08	2	32,03		——	16 21 32,07	31,94	32,04	+0,13	+0,03	+3,422
1892	3	14 Draconis η	3	43,80		——		——	16 21 43,80	43,69	43,06	+0,11	+0,74	0,792
1893	5	9 Ophiuchi ω		——		——	3	11,16	16 22 11,14	11,37	11,31	—0,23	—0,17	3,537
1894	4	10 Ophiuchi λ		——		——	3	26,87	16 22 26,87	26,95	26,44	—0,08	+0,43	3,018
1895	5	21 Ursæ Min η		——		——	1	29,69	16 22 30,01		30,65		—0,64	—1,867
1896	2.3	27 Herculis β		——	8	0,08		——	16 23 0,10	0,11	59,42	—0,01	+0,68	+2,579
1897	5	30 Herculis g	2	7,38		——	1	7,45	16 23 7,43		7,53		—0,10	1,961
1898	5.6	28 Herculis n		——		——	5	20,10	16 24 20,10		19,50		+0,60	2,942
1899	4.5	29 Herculis h		——		——	4	44,97	16 24 44,98	44,85	44,84	+0,13	+0,14	2,811
1900	3.4	23 Scorpii τ	6	26,36		——		——	16 25 26,36	26,31	26,31	+0,05	+0,05	3,715
1901	5	12 Ophiuchi	1	32,66		——	4	32,55	16 27 32,57		32,01		+0,56	3,110
1902	3.4	13 Ophiuchi ζ	6	55,03		——	2	55 08	16 27 55,04	55,02	54,87	+0,02	+0,17	3,290
1903	4.5	15 Draconis A		——		——	3	20,13	16 28 20,31	20,80	20,66	—0,49	—0,35	—0,161
1904	6	33 Herculis		——		——	4	42,41	16 28 42,41		41,72		+0,69	+2,907
1905	4	35 Herculis σ	2	41,29	1	41,42		——	16 28 41,34	41,50	41,08	—0 16	+0,26	1,928
1906	2	Triang Aus α		——		——	3	58,34	16 30 58,17		58,96		—0,79	6,239
1007	5	24 Scorpii m	5	52,01	1	52,01		——	16 31 52,01	52,05	51,87	—0,04	+0,14	3,456
1908	6.7	Scorpii		——		——	5	30,68	16 34 30,66		30,44		+0,22	3,735
1909	3	40 Herculis ζ	6	57 33	15	57,31		——	16 34 57,32	57,33	56,86	—0,01	+0,46	2,246*
1910	4	Aræ η	5	19,43		——		——	16 35 19,43		20,06		—0,63	5,119
1911	6	25 Scorpii		——		——	4	34,93	16 36 34,90		35,32		—0,42	3,656
1912	6	16 Ophiuchi d		——		——	4	57,95	16 37 57,95		57,83		+0,12	3,039
1913	3	44 Herculis η	5	8,26		——		——	16 37 8,26	8,40	7,60	—0,14	+0,66	2,047
1914	5	43 Herculis i	2	46,34		——	3	46,34	16 37 46,34		45,73		+0,61	2,872
1915	3	26 Scorpii ε		——	3	18,10	1	18,14	16 39 18,08	18,54	17,83	—0,46	+0,25	3,870*
1916	5.6	45 Herculis e		——		——	4	30,44	16 39 30,45		30,11		+0,34	2,946
1917	6	18 Ophiuchi u		——		——	1	31,36	16 39 31,34		31,57		—0,23	3,635
1918	5	18 Draconis g		——		——	2	45,69	16 39 45,85		45,74		+0,11	0,387
1919	3.4	Scorpii μ^1		——		——	2	30,42	16 40 30,39		30,28		+0,11	4,041
1920	5	20 Ophiuchi r	7	32,89		——		——	16 40 32,89		32,57		+0,32	3,300
1921	4	Scorpii μ^2		——		——		——	16 40 ——		58,39		——	4,040
1922	5	47 Herculis k	5	10,33		——		——	16 42 10,11		10,11		0,00	2,901
1923	6	21 Ophiuchi		——	1	54,08	3	54,11	16 42 54,10		53,84		+0,26	3,035
1924	6.7	Scorpii	2	30,83		——	3	30,70	16 43 30,74		30,59		+0,15	3,531
1925	5	50 Herculis s	5	5,79		——		——	16 44 5,79		5,15		+0,64	2,336
1926	5	52 Herculis		——		——	3	18,94	16 44 18,98	19,35	18,70	—0,37	+0,28	1,746
1927	6	49 Herculis		——		——	4	26,34	16 44 26,36		26,10		+0,26	2,723
1928	6.7	22 Ophiuchi		——		——	2	42,24	16 44 42,22		42,01		+0,21	3,611
1929	3.4	Aræ ζ		——		——		——	16 44 ——		45,66		——	4,922
1930	6	51 Herculis X^2		——		——		——	16 44 ——		47,19		——	2,480
1931	5	23 Ophiuchi q	3	37,33		——		——	16 45 37,33		37,15		+0,18	3,198
1932	4	25 Ophiuchi i		——		——	3	3,84	16 46 3,85	3,69	3,59	+0,16	+0,26	2,834
1933	4.5	Aræ ε		——		——		——	16 46 ——		14,13		——	4,743
1934	6	Ophiuchi	1	20,62	1	20,81	1	20,48	16 46 20,63		20,11		+0,52	3,444
1935	5	53 Herculis	7	35,95		——		——	16 46 35,95		35,38		+0,57	2,276

No.	Mean N. P D. reduced to January 1, 1832, from Observations in						Mean N. P D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1891		——		——	5	14 21,66	106 14 21,66	14 20,17	14 16,56	+1,49	+ 5,10	+ 8,358
1892		——		——	5	6 11,59	28 6 11,59	6 14,64	6 13,93	—3,05	— 2,34	8,336
1893		——	1	5 57,65	4	5 58,37	111 5 58,23		5 51,01		+ 7,22	8,306
1894		——		——	3	38 32,27	87 38 32,27	38 29,22	38 25,11	+3,05	+ 7,16	8,284
1895		——		——	3	——	13 51 44,18		51 39,20		+ 4,98	8,266
1896	6	8 17,19	6	8 16,45	1	8 16 25	68 8 16,78	8 20,18	8 18,27	—3,40	— 1,49	8,239
1897	2	44 37,68		——	1	44 37,62	47 44 37,66		44 36,41		+ 1,25	8,227
1898		——		——	3	——	84 6 52,52		6 49,94		+ 2,58	8,134
1899		——		——	3	8 40,86	78 8 40,86	8 41 76	8 39,43	—0,90	+ 1,43	8,100
1900	1	51 31,49		——	4	51 31,04	117 51 31,13	51 32,26	51 28,47	—1,13	+ 2,66	8,047
1901		——		——	3	57 35,27	91 57 35,27		57 28,14		+ 7,13	7,877
1902	6	13 15,72		——		——	100 13 15,72	13 11.54	13 6,65	+4,18	+ 9,07	7,847
1903		——		——	4	52 10,44	20 52 10,44	52 7,75	52 5,00	+2,69	+ 5,44	7,803
1904		——	1	32 34,74	3	32 41,18	82 32 41,18		32 35,91		+ 5,27	7,783
1905	5	12 45,04	1	12 48,47	3	12 45,52	47 12 45,57	12 45,20	12 42,25	+0,37	+ 3,32	7,781
1906		——		——	5	42 19,65	158 42 19,65		42 12,17		+ 7,48	7,607
1907	6	24 33,15		——		——	107 24 33,15		24 30,18		+ 2,97	7,528
1908		——	1	11 18 35	4	11 18,05	118 11 18,11		11 16,86		+ 1,25	7,314
1909	4	5 16,01	10	5 16,55	8	5 16,38	58 5 16,38	5 19,16	5 11,97	—2,78	+ 4,41	7,275
1910		——		——	5	43 44,41	148 43 44,41		43 39,24		+ 5,17	7,251
1911		——		——	5	12 56,48	115 12 56,48		12 48,09		+ 8,39	7,145
1912		——		——	5	39 48,56	88 39 48,56		39 50,08		— 1,52	7,112
1913	7	45 15,68		——	1	45 16,33	50 45 15,74	45 15,34	45 11,05	+0,40	+ 4.69	7,096
1914		——		——	3	6 18,40	81 6 18,40		6 11,49		+ 6,91	7,046
1915	5	58 45,71		——		——	123 58 45,71		58 46,30		— 0,59	6,923
1916		——		——	2	26 45,90	84 26 45,90		26 36,62		+ 9.28	6,904
1917		——	1	20 7,82		——	114 20 7,82		20 11,68		— 3,86	6,904
1918		——		——	6	5 35,66	25 5 35,66		5 26,39		+ 9,27	6,876
1919		——		——	5	44 59,90	127 44 59,90		44 55,89		+ 4,01	6,825
1920	4	28 43,48		——	1	28 45,73	100 28 43,93		28 36,08		+ 7,85	6,819
1921		——		——	3	43 17,95	127 43 17,95		43 15,06		+ 2,89	6,786
1922	5	27 21,19		——		——	82 27 21,19		27 16,61		+ 4,58	6,684
1923		——		——	3	29 26,35	88 29 26,35		29 20,69		+ 5,66	6,625
1924		——		——	2	7 41,34	110 7 41,34		7 33,61		+ 7,73	6,575
1925	4	54 10,26	1	54 10,35		——	59 54 10,28		54 2,02		+ 8,26	6,525
1926		——		——	5	43 10,99	43 43 10,99	43 13,34	43 12,32	—2,35	— 1,33	6,504
1927		——		——	3	——	74 44 18,80		44 11,34		+ 7,46	6,497
1928		——		——	3	——	113 13 40,21		13 38,52		+ 1,69	6,477
1929	5	42 51,30		——		——	145 42 51,30		42 45,07		+ 6,23	6,476
1930		——		——	3	——	65 3 22,85		3 10,91		+ 11,94	6,467
1931	1	52 18,40		——	4	52 20,50	95 52 20,08		52 15,80		+ 4,28	6,400
1932		——	1	33 7,32	4	33 8,78	79 33 8,49	33 6,10	32 58,12	+2,39	+ 10,37	6,362
1933		——		——	4	53 28,71	142 53 28,71		53 25,05		+ 3,66	6,353
1934		——		——	3	——	106 31 49,84		31 53,58		— 3,74	6,341
1935	5	0 54,41		——		——	58 0 54,41		0 55,80		— 1,39	6,317

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832			Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
				No.	1831	No.	1832	No.	1833						Green.	A. S.	
					s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
1936	6.7	24 Ophiuchi			——		——	3	40,82	16	46	40,80		40,55		+0,25	+3,603
1937	6.7	Scorpii			——		——	2	12,21	16	47	12,19		12,02		+0,17	3,512
1938	5.6	54 Herculis			——		——		——	16	47	——		59,07		——	2,638
1939	6	Ophiuchi			——		——		——	16	49	——		44,58		——	3,657
1940	4	27 Ophiuchi	κ	5	43,40	2	43,28		——	16	49	43,36	43,36	43,04	0,00	+0,32	2,852
1941	6	26 Ophiuchi	x		——		——	2	52,93	16	49	52,90		51,81		+1,09	3,655
1942	7	Ophiuchi		1	58,15		——	4	58,18	16	49	58,16		57,66		+0,50	3,481
1943	6	Scorpii	ρ		——		——	3	1,61	16	51	1,58		1,51		+0,07	3,862
1944	6	29 Ophiuchi	s		——	1	1,83	4	2,07	16	52	2,00		2,31		—0,31	3,499
1945	6	30 Ophiuchi	p		——		——	2	12,35	16	52	12,35		12,29		+0,06	3,156
1946	7	28 Ophiuchi		1	41,36		——		——	16	53	41,36		40,92		+0,44	3,677
1947	5	Scorpii	k	5	47,13		——		——	16	53	47,13		47,13		0,00	3,928
1948	3	58 Herculis	ε	5	51,90	3	51,94	3	51,90	16	53	51,92	51,91	51,41	+0,01	+0,51	2,293
1949	7	Scorpii			——		——	3	49,87	16	54	49,84		48,57		+1,27	3,544
1950	5	19 Draconis	h		——		——	3	6,72	16	55	6,88		6,05		+0,83	0,266
1951	6	Ophiuchi			——		——	4	15,47	16	55	15,46		15,31		+0,15	3,314
1952	5	59 Herculis	d	1	24,15		——		——	16	55	24,15		23,61		+0,54	2,208
1953	5.6	32 Ophiuchi			——		——		——	16	55	——		25,94		——	2,740
1954	6	28 Scorpii			——		——	3	10 55	16	56	10,53		10,84		—0,31	3,569
1955	6	34 Ophiuchi			——		——	1	14,86	16	56	14,88		14,40		+0,48	2,752
1956	6	Ophiuchi			——		——		——	16	56	——		52,76		——	3,083
1957	5	60 Herculis		4	35,30		——		——	16	57	35,30		35,35		—0,05	2,771
1958	6 7	Ophiuchi			——		——	4	30,13	16	58	30,11		29,90		+0,21	3,471
1959	6	Ophiuchi			——		——	5	33,93	16	59	33,93		33,63		+0,30	3,087
1960	4	Scorpii	η	5	7,53		——		——	17	0	7,53		7,97		—0,44	4,272
1961	2.3	35 Ophiuchi	η	6	45,21	1	45,06	10	45,23	17	0	45,20	45,15	45,00	+0,05	+0,20	3,426
1962	4	21 Draconis	μ	3	51,61		——		——	17	1	51,61	51,58	51,29	+0,03	+0,32	1,242
1963	5	Herculis			——		——	3	4,62	17	2	4.58		4,81		—0,23	+2,123
1964	4	22 Ursæ Min	ε		——		——	1	——	17	3	26,89	27,43	24,26	—0,54	+2,63	—6,577*
1965	6.7	29 Scorpii			——		——		——	17	3	——		47,14		——	+3,722
1966	5	37 Ophiuchi		6	32,86		——		——	17	4	32,86		32,71		+0,15	2,821
1967	4.5	36 Ophiuchi	A	3	1,68		——	3	1.60	17	5	1,63	1,62	1,96	+0,01	—0,33	3,671*
1968	7	30 Scorpii			——		——	1	54.65	17	5	54,62		55,28		—0,66	3,671*
1969	5.6	Scorpii	u		——		——	3	8,52	17	6	8,48		8,57		—0,09	3,895
1970	3.4	64 Herculis	α	8	59,46	24	59,48	20	59,43	17	6	59,47	59,44	59,02	+0,03	+0,45	2,729
1971	6.7	31 Scorpii			——		——	3	13,87	17	7	13,84		13,69		+0,15	3,715
1972	6.7	Scorpii			——		——	3	24,80	17	7	24,76		24,30		+0,46	3,892
1973	5.6	39 Ophiuchi	o		——		——		——	17	7	——		46,48		——	3,650
1974	6	Ophiuchi			——		——		——	17	7	——		51,61		——	3,644
1975	4.5	41 Ophiuchi	o	3	59,70		——		——	17	7	59,70	58,99	59,65		+0,05	3,074
1976	4	65 Herculis	δ		——		——	3	8,10	17	8	8,13	8,07	7,06	+0,06	+1,07	2,460
1977	3	22 Draconis	ζ		——		——		——	17	8	——	19,40	18,48		——	0,153
1978	3.4	67 Herculis	π	5	11,99		——		——	17	9	11,99	12,06	11,74	—0,07	+0,25	2,986
1979	6.7	Ophiuchi			——		——		——	17	10	——		6,83		——	3,481
1980	6	66 Herculis	ω		——		——	3	43,28	17	10	43,29		43,06		+0,23	2,813

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
1936		——		——	4	52 30,21	112 52 30,21		52 29,29		+ 0,92	+ 6,314
1937		——		——	3	——	109 15 58,22		15 55,83		+ 2,39	6,270
1938		——		——	3	——	71 17 30,95		17 27,57		+ 3,38	6,202
1939		——		——	5	49 48,38	114 49 48,38		49 41,83		+ 6,55	6,063
1940	7	21 31,47		——	5	21 31,41	80 21 31,45	21 31,32	21 21,13	+0,13	+ 10,32	6,058
1941		——		——	4	43 33,04	114 43 33,04		43 29,44		+ 3,60	6,048
1942		——		——	4	——	107 58 42,17		58 39,36		+ 2,81	6,040
1943		——		——	3	——	121 53 5,19		53 1,89		+ 3,30	5,952
1944		——		——	3	——	108 37 46,14		37 45,14		+ 1,00	5,866
1945		——		——	3	——	93 57 47,63		57 41,15		+ 6,48	5,852
1946		——		——	3	27 1,97	115 27 1,97		26 58,16		+ 3,81	5,729
1947	5	52 38,09		——		——	123 52 38,09		52 38,56		— 0,47	5,721
1948	5	49 14,38	2	49 13,76	4	49 14,73	58 49 14,40	49 16,17	49 12,93	—1,77	+ 1,47	5,711
1949		——		——	3	15 7,10	110 15 7,10		14 57,14		+ 9,96	5,634
1950	5	36 31,95		——		——	24 36 31,95		36 25,49		+ 6,46	5,601
1951		——		——	3	——	100 50 43,48		50 38,98		+ 4,50	5,596
1952	1	11 1,32	2	11 2,15	4	11 2,24	56 11 2,08		10 57,74		+ 4,34	5,582
1953		——		——	3	——	75 39 38,09		39 27,77		+ 10,32	5,580
1954		——		——	3	——	111 19 22,82		19 22,85		— 0,03	5,519
1955		——		——		——	76 10 ——		10 54,70		——	5,512
1956		——		——	5	39 17,82	90 39 17,82		39 12,65		+ 5,17	5,459
1957	5	1 20,69		——		——	77 1 20,69		1 14,66		+ 6,03	5,399
1958		——		——	4	22 48,59	107 22 48,59		22 41,07		+ 7,52	5,324
1959		——		——	3	——	90 51 4,59		50 59,93		+ 4,66	5,233
1960	4	0 24,08		——	1	0 24,96	133 0 24,25		0 15,74		+ 8,51	5,188
1961	5	30 34,54		——		——	105 30 34,54	30 33,63	30 26,28	+0,91	+ 8,26	5,134
1962	5	18 24,52		——	3	18 24,87	35 18 24,65	18 22,55	18 20,86	+2,10	+ 3,79	5,034
1963		——		——	4	50 29,86	53 50 29,86		50 28,92		+ 0,94	5,018
1964		——		——	5	41 58,72	7 41 58,72	41 58,96	41 55,63	—0,24	+ 3,09	4,881
1965		——		——	3	——	116 46 28,26		46 23,95		+ 4,31	4,877
1966		——		——	5	12 17,53	79 12 17,53		12 12,48		+ 5,05	4,810
1967	5	20 52,23		——		——	116 20 52,23	20 49,60	20 46,96	+2,63	+ 5,27	6,021*
1968		——		——	3	17 42,88	116 17 42,88		17 41,59		+ 1,29	5,936*
1969		——		——	3	——	122 27 43,56		27 47,18		— 3,62	4,678
1970	9	24 45,13		——		——	75 24 45,13	24 43,00	24 37,70	+2,13	+ 7,43	4,603
1971		——		——	3	——	116 26 5,03		26 1,30		+ 3,73	4,585
1972		——		——		——	122 21 ——		21 38,74		——	4,570
1973		——		——		——	114 5 ——		5 39,65		——	4,538
1974		——		——		——	113 52 ——		52 38,93		——	4,531
1975	5	14 54,35		——		——	90 14 54,35	14 56,82	14 53,37	—2,47	+ 0,98	4,518
1976		——		——	5	57 30,83	64 57 30,83	57 26,35	57 20,42	+4,48	+ 10,41	4,506
1977		——		——	5	4 41,17	24 4 41,17	4 42,09	4 40,84	—0,92	+ 0,33	4,483
1978	1	59 49,10		——	4	59 46,42	52 59 46,95	59 49,58	59 46,62	—2,63	+ 0,33	4,413
1979		——		——	1	34 20,67	107 34 20,67		34 19,56		+ 1,11	4,338
1980		——		——		——	78 56 ——		56 42,84		——	4,285

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832		Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833					Green.	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.
1981	4,5	40 Ophiuchi ρ	5	56,43		——	2	56,52	17	10	56,48	56,39	56,65	+0,09	+0,43	+3,567
1982	4	68 Herculis u		——		——	3	7,32	17	11	7,36	7 ,45	7,38	—0,09	—0,02	2,211
1983	3	Aræ γ		——		——		——	17	11	——		18,46		——	5,019
1984	3	Aræ β		——		——		——	17	11	——		20,97		——	4,958
1985	4,5	53 Serpentis ν		——		——	3	23,05	17	11	23,04	23,10	23,23	—0,06	—0,19	3,362
1986	3.4	42 Ophiuchi θ	5	42,13		——		——	17	11	42,13	42,08	41,88	+0,05	+0,25	3,672
1987	4.5	69 Herculis e	1	52,84		——	2	52,74	17	11	52,80	52,96	52,34	—0,16	+0,46	2,066
1988	6	43 Ophiuchi y		——		——	4	47,85	17	12	47,82	47,68	47,78	+0,14	+0,04	3,762
1989	5.6	70 Herculis a		——		——		——	17	4	——		58,76		——	2,467
1990	6	Scorpii		——	1	39,66	2	39,66	17	14	39,64		39,41		+0,23	3,578
1991	7	33 Scorpii		——		——	5	50,63	17	14	50,60		50,67		—0,07	3,654
1992	4	Aræ δ	2	57,60	2	57,52		——	17	15	57,53		59,12		—1,59	5,389
1993	5.6	44 Ophiuchi b		——		——	2	7,00	17	16	6.98	7,11	7,11	—0,13	—0,13	3,652
1994	5	45 Ophiuchi d	4	38,08	2	38,32		——	17	16	38,15		38,09		+0,06	3,817
1995	6.7	Ophiuchi		——		——	3	55,60	17	16	55,57		55,17		+0,40	3,813
1996	6	73 Herculis		——		——	4	5,03	17	17	5,06		4,56		+0,50	2,507
1997	6	47 Ophiuchi		——		——	3	36,89	17	17	36,88		37,04		—0,16	3,356
1998	5.6	Ophiuchi		——		——	1	43 58	17	17	43,58		43,24		+0,34	3,181
1999	4	75 Herculis ρ	6	53,45		——	4	53,30	17	17	53,39	53,50	53,03	—0,11	+0,36	2,067
2000	4.5	49 Ophiuchi σ	5	10,93		——		——	17	18	10,93	11,10	10,89	—0,17	+0,04	2,969
2001	3	Aræ α		——		——	1	52,32	17	18	52,25		52,76		—0,51	4,620
2002	3 4	34 Scorpii υ		——	1	20,78	1	21,13	17	19	20,92		21,18		—0,26	4,064
2003	6	Herculis		——		——		——	17	19	——		33,85		——	2,583
2004	6	Ophiuchi		——		——	2	15,84	17	20	15,84		15,67		+0,17	3,057
2005	5	51 Ophiuchi e^2	2	10,37	3	10,45		——	17	21	10,41	10,32	10,61	+0,09	—0,20	3,649
2006	6,7	Sagittarii		——		——	4	18,92	17	21	18,89		18,82		+0,07	3,714
2007	3	35 Scorpii λ	3	12,79	1	12,62	3	12,78	17	22	12,74	12,65	12,77	+0,09	—0,03	4,060
2008	6	Ophiuchi h		——		——	5	56,18	17	22	56.18		56,05		+0,13	3,002
2009	4.5	76 Herculis λ	6	57,11		——	1	57,11	17	23	57,11	57,12	56,93	—0,01	+0,18	2,417
2010	5	Scorpii	4	59,57	2	59,32		——	17	24	59,48		59,17		+0,31	4,119
2011	7	52 Ophiuchi		——	1	12,38	2	12,63	17	25	12,53		12,33		+0,20	3,599
2012	5	Scorpii θ		——		——	3	15,68	17	25	15,62		15,37		+0,25	4,294
2013	6	78 Herculis		——		——	4	13,86	17	25	13,89		13,38		+0,51	2,350
2014	6	54 Ophiuchi		——		——		——	17	25	——		37,02		——	2,756
2015	6	53 Ophiuchi f		——		——	1	38,58	17	26	38,59		38,32		+0,27	2,842
2016	2	23 Draconis β	1	38,54		——	2	38,64	17	26	38,66	38,44	38,01	+0,22	+0,65	1,349
2017	2	55 Ophiuchi α	4	8,27	26	8,45	16	8,43	17	27	8,42	8,39	7,97	+0,03	+0,45	2,770
2018	6.7	Serpentis		——		——	3	58,00	17	27	57,98		58,04		—0,06	3,434
2019	5	55 Serpentis ξ	4	58,41	1	58,03		——	17	27	58,34		58,11		+0,23	3,430
2020	6	2 Sagittarii		——		——	3	39,42	17	28	39,40		39,60		—0,20	3,597
2021	5	57 Ophiuchi μ	6	43,03		——		——	17	28	43,03	43,02	42,59	+0,01	+0,44	3,254
2022	5	24 Draconis ν^1		——		——		——	17	28	——		52,14		——	1,156
2023	5	25 Draconis ν^2		——		——		——	17	28	——		57,12		——	1,157
2024	7	Sagittarii		——		——	2	4,81	17	29	4,77		4,38		+0,39	3,898
2025	5	Pavonis η		——		——		——	17	29	——		17,18		——	5,860

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.			Green-wich Cata-logue.		A. S. Cata-logue.			Difference from			Annual Precessi-on.
	No.	1831		No.	1832		No.	1833								Green.		A. S. C.	
		′	″		′	″		′	″	°	′	″	′	″	′	″	″		″
1981		——		2	55	26,66	3	55	30,68	110	55	29,07	55	28,31	55	25,25	+0,76	+	3,82	+ 4,268
1982	5	42	50,05		——			——		56	42	50,05	42	49,93	42	48,49	+0,12	+	1,56	4,248
1983	4	12	27,84		——			——		146	12	27,84			12	27,22		+	0,62	4,241
1984		——			——		2	21	37,65	145	21	37,65			21	27,06		+	10,59	4,237
1985		——			——			——		102	40	——	40	8,74	40	1,86			——	4,229
1986		——			——		4	49	29,39	114	49	29,39	49	23,70	49	20,25	+5,69	+	9,14	4,203
1987	5	31	38,08		——			——		52	31	38,08	31	40,78	31	31,20	—2,70	+	6,88	4,184
1988		——		2	58	12,36	2	58	12,15	117	58	12,25	58	14,24	58	10,83	—1,99	+	1,42	4,110
1989		——			——		3	19	41,33	65	19	41,33			19	36,56		+	4,77	4,005
1990		——			——		4	16	34,62	111	16	34,62			16	33,70		+	0,92	3,950
1991		——			——			——		114	4	——			4	50,07			——	3,934
1992	5	31	51,67		——			——		150	31	51,67			31	50,02		+	1,65	3,841
1993		——		4	0	41,66	1	0	43,56	114	0	42,64	0	44,33	0	38,05	—1,69	+	4,59	3,825
1994	5	42	25,02		——			——		119	42	25,02			42	23,57		+	1,45	3,781
1995		——			——		4	34	21,31	119	34	21,31			34	8,66		+	12,65	3,756
1996		——			——			——		66	52	——			52	36,46			——	3,739
1997		——			——			——		102	21	——			21	16,50			——	3,695
1998		——			——			——		94	55	——			55	47,30			——	3,686
1999	6	41	40,83		——			——		52	41	40,83	41	41,58	41	34,03	—0,75	+	6,80	3,668
2000	5	42	27,30		——		2	42	27,99	85	42	27,50	42	25,37	42	19,15	+2,13	+	8,35	3,645
2001	1	43	56,17	5	43	57,83		——		139	43	57,55			43	55,00*		+	1,65	3,590
2002		——			——		5	9	9,06	127	9	9,06			9	4,07		+	4,99	3,518
2003		——			——		4	46	14,69	69	46	14,69			46	10,18*		+	4,51	3,525
2004		——			——		4	31	36,41	89	31	36,41			31	31,91*		+	4,50	3,467
2005	5	49	24,60		——			——		113	49	24,60	49	28,34	49	23,41	—3,74	+	1,19	3,389
2006		——		3	7	55,92	2	7	57,93	116	7	56,72			7	53,50*		+	3,22	3,378
2007	5	58	17,32		——			——		126	58	17,32			58	10,08		+	7,24	3,301
2008		——			——		5	8	35,50	87	8	35,50			8	33,00*		+	2,50	3,236
2009	5	45	23,21	1	45	19,94	5	45	22,74	63	45	22,69	45	26,03	45	25,00	—3,34	—	2,31	3,147
2010		——		1	30	22,50	4	30	23,94	128	30	23,65			30	14,85*		+	8,80	3,062
2011		——		3	55	19,99	1	55	21,88	111	55	20,46			55	15,89		+	4,57	3,042
2012	4	52	48,33		——		1	52	49,45	132	52	48,55			52	45,24		+	3,31	3,039
2013		——			——		4	27	55,38	61	27	55,38			27	54,30		+	1,08	3,036
2014		——			——			——		76		——			42	57,78			——	2,917
2015		——			——			——		80		——			17	31,16			——	2,915
2016	4	34	14,46	1	34	15,49		——		37	31	14,67	34	16 6-	34	14,71	—2,01	—	0,04	2,912
2017	8	18	39,49	29	18	40,55	23	18	40,56	77	18	40,43	18	39,55	18	34,38	+0,88	+	6,05	2,872
2018		——			——			——		105		——			27	34,50*			——	2,802
2019	5	17	10,19		——			——		105	17	10,19			17	0,86		+	9,33	2,802
2020		——		3	48	16,67	1	48	15,07	111	48	16,27			48	8,58		+	7,69	2,743
2021	3	0	29,82	1	0	27,03	1	0	28,78	98	0	29,06	0	33,16	0	27,41	—4,10	+	1,65	2,737
2022		——			——		2	41	56,57	34	41	56,57			41	51,39		+	5,18	2,717
2023		——			——		5	42	39,72	34	42	39,72			42	35,15		+	4,57	2,710
2024		——			——			——		122		——			5	46,89*			——	2,708
2025		——			——		1	37	49,77	151	37	49,77			37	38,89*		+	10,88	2,695

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832			Greenb Catal.	A. S. Catal.	Difference from		Annual Precession
				No.	1831	No.	1832	No.	1833						Green.	A. S.	
					s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2026	6	79 Herculis			——		——	2	36,06	17	30	36,09		35,37		+0,72	+2,466
2027	3	Scorpii	κ	3	52,69	4	52,52		——	17	30	52,58		52,32		+0,26	4,139
2028	4.5	56 Serpentis	o	2	58,75	3	58,74		——	17	31	58,74	58,64	58,37	+0,10	+0 37	3,869
2029	7	Sagittarii			——		——	3	43,72	17	32	43,69		43,02		+0,67	3.767
2030	5	27 Draconis	f		——		——	1	38,85	17	32	39,02		38,45		+0,57	—0,290*
2031	7	Serpentis			——		——	4	2,08	17	33	2,06		1,57		+0,49	+3,435
2032	5	58 Ophiuchi	D		——	1	21,83	4	22,20	17	33	22,11	21,68	22,32	+0,43	—0,21	3,593
2033	7	Ophiuchi			——	3	16,45		——	17	34	16,44		16,28		+0,16	3,607
2034	6	Ophiuchi			——		——	4	26,52	17	34	26,54		26,25		+0,29	2,686
2035	4	85 Herculis	ι	5	43,58	1	43,70		——	17	34	43,61	43,59	42,80	+0,02	+0,81	1,688
2036	3	60 Ophiuchi	β	5	10,59	2	10,79		——	17	35	10,74	10,66	10,34	+0,08	+0,40	2,960
2037	4.5	Scorpii	κ^1	3	50,74	1	50,38		——	17	35	50,65		50,08		+0,57	4,185
2038	5.6	84 Herculis			——		——	4	28,02	17	36	28,05		27,51		+0,54	2,465
2039	5	3 Sagittarii	p	5	59,32	1	59,21		——	17	36	59,30	59,42	59,04	—0,12	+0,26	3,768
2040	7	Sagittarii			——		——	3	57,79	17	37	57,76		57,75		+0,01	3,743
2041	5	28 Draconis	ω		——		——	3	55,92	17	37	56,12		56,09		+0,03	—0,367
2042	5.6	Sagittarii			——	3	15,93		——	17	38	15,91		15,95		—0,04	+3,887
2043	4	Telescopii	γ		——	2	26,12	4	25,88	17	38	25,92	25,63	25,30	+0,29	+0,62	4,070
2044	7	Sagittarii			——		——	2	28,17	17	38	28,15		28,05		+0,10	3,852
2045	4	62 Ophiuchi	γ	3	28,33	2	28,43		——	17	39	28,37	28,36	28,01	+0,01	+0,36	3,003
2046	4	86 Herculis	μ	6	53,29		——		——	17	39	53,29	53,34	52,56	—0,05	+0,73	2.366
2047	7	Sagittarii			——		——		——	17	40	——		23,91		——	3,852
2048	6	87 Herculis			——	3	0,50	2	0,72	17	42	0,61		0,08		+0,53	2,427
2049	6.7	63 Ophiuchi	$\varkappa$		——	1	34,12	4	34,09	17	44	34,07		33,81		+0,26	3,685
2050	7	Serpentis			——	3	39,29	3	39,61	17	46	39,13		39,22		+0,21	3,445
2051	6	Serpentis			——		——	3	55,96	17	46	55,95		55,48		+0,47	3,162
2052	5	Sagittarii		5	18,27	4	18,38	3	18,46	17	48	18,34		18,04		+0,30	3,845
2053	5.6	89 Herculis			——		——	5	38,90	17	48	38,93		38,62		+0,31	2,415
2054	5	4 Sagittarii	b	5	32,26	1	32,38		——	17	49	32,28		32,27		+0,01	3,656
2055	4	64 Ophiuchi	ν	5	46,84	1	46,77		——	17	49	46,83	46,85	46,56	—0,02	+0,27	3,297
2056	7	5 Sagittarii	i		——		——	5	53,91	17	49	53,88		54,52		—0,64	3,670
2057	6 7	Sagittarii			——		——	4	0,85	17	50	0,83		0,42		+0,41	3,562
2058	4	91 Herculis	θ	3	29,68		——		——	17	50	29,68	29,72	28,99	—0,04	+0,69	2,052
2059	3.4	32 Draconis	ξ		——		——	3	37,33	17	50	37,43	37,66	36,81	—0,23	+0,62	1,020
2060	4	92 Herculis	ξ		——		——	4	14,25	17	51	14,29	14,31	13,92	—0,02	+0,37	2,320
2061	5	57 Serpentis	ζ		——	2	36,27		——	17	51	36,27		36,53		—0,26	3,154
2062	7	6 Sagittarii			——		——		——	17	51	——		38,15		——	3,480
2063	6	Sagittarii			——		——	1	43,85	17	51	43,83		43,77		+0,06	3,628
2064	5	66 Ophiuchi	n		——		——		——	17	51	——		56,49		——	2,970
2065	5	94 Herculis	ν		——		——		——	17	52	——		3,85		——	2,291
2066	4	67 Ophiuchi	o		——		——	3	14,15	17	52	14,15	14,11	13,76	+0,04	+0,39	2,999
2067	6	7 Sagittarii	a		——	4	33,88		——	17	52	33,87		32,37		+1,50	3,670
2068	5	93 Herculis	E		——		——	1	34,32	17	52	34,34		33,98		+0,36	2,666
2069	6	Sagittarii			——		——		——	17	52	——		36,14		——	3,573
2070	6	Tauri Pon			——		——		——	17	52	——		40,82		——	2,921

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2026		——		——		——	65 ——		34 57,80		——	+2,572
2027	5	55 59,78		——		——	128 55 59,78		55 58,37*		+ 1,41	2,552
2028	4	46 35,83	1	46 33,72		——	102 46 35,41	46 40,44	46 34,57	—5,03	+ 0,84	2,455
2029		——	4	47 37,60	4	47 35,21	117 47 36,41		47 36,47*		— 0,06	2,391
2030		——	2	45 28,55	2	45 29,78	21 45 29,16		45 28,12		— 1,04	2,386
2031		——		——	5	28 9,01	105 28 9,01		28 4,86*		+ 4,15	2,363
2032	3	35 34,24	1	35 31,88	1	35 34,52	111 35 33,82	35 34,72	35 27,48	—0,90	+ 6,34	2,334
2033		——		——		——	112 ——		6 35,04*		——	2,256
2034		——		——		——	73 ——		57 51,39*		——	2,239
2035		——		——	5	54 0,95	43 54 0,95	54 2,44	53 58,83	—1,49	+ 2,12	2,212
2036	7	21 24,16	1	21 23,30		——	85 21 24,05	21 21,66	21 16,08	+2,39	+ 7,97	2,176
2037	5	3 17,21		——		——	130 3 17,21		3 3,12*		+ 14,09	2,121
2038		——	1	35 36,09	4	35 35,26	65 35 35,43		35 32,36		+ 3,07	2,062
2039	2	45 25,71	2	45 25,77		——	117 45 25,74	45 25,82	45 23,77	—0,08	+ 1,97	2,020
2040		——	2	54 19,53	2	54 21,82	116 54 20,67		54 19,37*		+ 1,30	1,935
2041		——		——	4	9 55,04	21 9 55,04		9 52,14		+ 2,90	1,926
2042		——		——		——	121 ——		38 8,23*		——	1,909
2043	5	58 47,46		——		——	126 58 47,46		58 45,33*		+ 2,13	1,896
2044		——		——		——	120 31 —		31 43,04*		——	1,891
2045	4	13 23,30		——	1	13 21,13	87 13 22,87	13 22,12	18 17,24	+0,75	+ 5,63	1,802
2046	6	10 31,91		——	7	10 33,77	62 10 32,91	10 33,31	10 32,38	—0,40	+ 0,53	2,604*
2047		——	1	29 55,78	4	29 57,89	120 29 57,47		29 53,67*		+ 3,80	1,723
2048		——	5	18 37,03		——	64 18 37,03		18 54,58		— 17,55	1,579
2049		——	4	50 45,67	1	50 47,20	114 50 45,98		50 40,13*		——	1,360
2050		——	3	46 30,20	2	46 32,53	105 46 31,33		46 25,50		——	1,177
2051		——	1	2 58,93	4	2 59,75	94 2 59,58		2 57,14		+ 2,44	1,065
2052	6	13 39,06		——		——	120 13 39,06		13 34,60		+ 4,46	1,034
2053		——		——	5	55 2,63	63 55 2,63		54 58,42		+ 4,21	1,000
2054	6	47 28,50		——		——	113 47 28,50	47 32,04	47 25,99	—3,54	+ 2,51	0,925
2055	5	44 46,19		——		——	99 44 46,19	44 43,21	44 33,91	+2,98	+ 12,28	0,903
2056		——		——	6	15 42,26	114 15 42,26		15 41,01		+ 1,25	0,893
2057		——		——	6	19 8,52	110 19 8,52		19 4,23		+ 4,29	0,884
2058	5	43 19,35		——		——	52 43 19,35	43 21,38	43 17,17	—2,03	+ 2,18	0,838
2059		——	6	5 54,36		——	33 5 54,36	5 54,63	5 56,49	—0,27	— 2,13	0,824
2260	4	43 43,90	3	43 44,96		——	60 43 44,35	43 42,90	43 38,05	+1,45	+ 6,30	0,773
2061		——		——	5	40 16,58	93 40 16,58		40 15,29		+ 1,29	0,743
2062		——		——		——	107 ——		8 27,08		——	0,741
2063		——		——		——	112 ——		45 59,96		——	0,734
2064		——		——		——	85 ——		48 46,88		——	0,713
2065		——		——	3	47 32,98	59 47 32,98		47 26,45		+ 6,53	0,701
2066		——		——	5	3 13,54	87 3 13,54	3 13,31	3 6,25	+0,23	+ 7,29	0,688
2067		——		——		——	114 ——		16 17,19		——	0,663
2068		——		——		——	73 ——		13 55,23		——	0,658
2069		——		——		——	110 ——		43 36,07		——	0,657
2070		——		——		——	83 ——		43 2,17		——	0,648

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833						Green.	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2071	2	33 Draconis γ		8 42,42	28	42,53	15	42,06	17	52	42,42	42,56	42,17	—0,14	+0,25	+1,388
2072	5.6	68 Ophiuchi k		——		——	2	13,95	17	53	13,95		13,54		+0,41	3,037
2073	4	Aræ θ		——		——		——	17	53	——		34,09		——	4,665
2074	6.7	9 Sagittarii		——		——		——	17	53	——		34,50		——	3,673
2075	5	69 Ophiuchi τ		5 56,31	1	56,41		——	17	53	56,33		55,75		+0,58	3,260
2076	5	Sagittarii γ^1		——		——	3	17,67	17	54	17,63		17,09		+0,54	3,825
2077	5.6	95 Herculis B		——	1	22,55		——	17	54	22,57		22,16		+0,41	2,539
2078	7	Sagittarii		——	1	52,44	2	52,58	17	54	52,52		52,02		+0,50	3,674
2079	4	10 Sagittarii γ^2	5	1,17		——		——	17	55	1,17	1,27	1,39	—0,10	—0,22	3,852
2080	5	96 Herculis Q	4	12,39	1	12,24		——	17	55	12,36		11,69		+0,67	2,560
2081	6	97 Herculis		——		——	3	28,91	17	55	28,93		28,11		+0,82	2,503
2082	4.5	70 Ophiuchi p	5	58,07	1	58,09	3	58,25	17	56	58,13	58,02	57,94	+0,11	+0,19	3,009
2083	7	Sagittarii		——		——		——	17	57	——		6,87		——	3,593
2084	5	Draconis		——		——		——	17	57	——		57,12		——	—2,710
2085	5	Sagittarii		——	5	26,55		——	17	57	26,53		26,50		+0,03	+3,792
2086	5	Telescopii ϵ		——	3	45,92		——	17	58	45,89		45,67		+0,22	4,450
2087	5.6	98 Herculis		——		——	4	57,56	17	58	57,59		57,07		+0,52	2,523
2088	6	Sagittarii		——		——	5	16,21	17	59	16,17		15,95		+0,22	3,863
2089	6	71 Ophiuchi S^1		——	3	16,45		——	17	59	16,46		16,04		+0,42	2,863
2090	4	72 Ophiuchi S^2	5	23,03	1	23,14		——	17	59	23,02	23,31	22,85	—0,29	+0,17	2,843
2091	4	103 Herculis o	6	59,57		——	5	59,35	18	0	59,46	59,58	59,24	—0,12	—0,22	2,335
2092	6	73 Ophiuchi q		——		——	3	13,04	18	1	13,05		12,66		+0,39	2,975
2093	6	Sagittarii		——	1	28,00	4	28,36	18	1	28,27		28,14		+0,13	3,655
2094	5.6	102 Herculis C		——		——	4	34,65	18	1	34,65		33,88		+0,77	2,561
2095	6	101 Herculis P		——	5	38,33		——	18	1	38,35		37,78		+0,57	2,581
2096	3.4	13 Sagittarii μ^1	5	43,26	1	43,32	1	43,01	18	3	43,23	43,22	42,79	+0,01	+0,44	3,583
2097	6	14 Sagittarii		——	5	10,53		——	18	4	10,52		10,34		+0,18	3,601
2098	6	15 Sagittarii μ^2		——		——	5	11,78	18	5	11,76	11,79	11,42	—0,03	+0,34	3,575
2099	6	16 Sagittarri		——		——	4	13,49	18	5	13,47		12,76		+0,71	3,566
2100	5	104 Herculis A	6	34,95		——		——	18	5	34,95		34,70		+0,25	2,254
2101	4	Telescopii β	1	15,77	4	15,73		——	18	6	15,71	15,56	16,05	+0,15	—0,34	4,067
2102	7	17 Sagittarii		——	3	35,19	1	35,01	18	6	35,13		35,17		—0,04	3,570
2103	5.6	Sagittarii g		——		——	5	32,45	18	7	32,42		32,14		+0,28	3,751
2104	7	Clypei Sob		——	1	37,70	4	37,48	18	7	37,50		37,15		+0,35	3,515
2105	3.4	19 Sagittarii δ	5	14,43	1	14,35	7	14,34	18	10	14,34	14,43	14,10	—0,09	+0,24	3,835
2106	6	Clypei Sob		——		——	4	28,76	18	10	28,74		28,04		+0,70	3,447
2107	5	105 Herculis G	5	15,95	1	16,13		——	18	12	15,98		15,42		+0,56	2,463
2108	6	74 Ophiuchi r		——	1	28,82	3	29,11	18	12	29,03		29,21		—0,18	2,991
2109	4	58 Serpentis η		——		——		——	18	12	——	37,23	36,92		——	3,092*
2110	3	20 Sagittarii ϵ	5	1,23	2	1,22		——	18	12	1,22	1,35	1,29	—0,13	—0,07	3,983
2111	5	36 Draconis		——	2	56,12	3	55,94	18	12	56,01		55,40		+0,61	0,291
2112	5.6	106 Herculis		——	5	11,70		——	18	13	11,72		10,92		+0,80	2,532
2113	4.5	1 Lyræ		——	2	58,45	2	58,52	18	13	58,53	58,63	58,53	—0,10	0,00	2,099
2114	6	Sagittarii		——		——	3	13,84	18	14	13,80		13,76		+0,04	3,864
2115	4.5	Telescopii a	1	30,89	4	30,95		——	18	14	30,90		30,85		+0,05	4,451

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No	1832	No.	1833				Green	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2071	18	29 14,85	35	29 16,03	15	29 17,08	38 29 15,96	29 18,40	29 18,56	—2,44	— 2,60	+0,642
2072		——		——	4	40 58,35	88 40 58,25		40 58,68		— 0,43	0,601
2073	5	5 32,51		——		——	140 5 32,51		5 28,87		+ 3,64	0,576
2074		——		——		——	114 ——		21 17,46		——	0,573
2075	5	10 17,71		——		——	98 10 17,71		10 18,59		— 0,88	0,540
2076		——		——	5	34 45,42	119 34 45,42		34 41,16		+ 4,26	0,511
2077		——		——	1	23 49,55	68 23 49,55		23 48,79		+ 0,76	0,500
2078		——		——		——	114 ——		23 51,32		——	0,460
2079		——	3	25 2,81	1	25 5,32	120 25 3,43	24 53,25	24 58,26	+10,18	+ 5,17	0,446
2080	3	9 37,34	2	9 38,24		——	69 9 37,70		9 34,72		+ 2,98	0,428
2081		——		——	4	4 18,13	67 4 18,13		4 17,15		+ 0,98	0,404
2082	5	27 12,93		——		——	87 27 12,93	27 14,61	27 15,21	—1,68	— 2,28	1,444*
2083		——	1	27 8,75	3	27 8,52	111 27 8,58		27 8,47		+ 0,11	0,263
2084		——	1	1 13,65	4	1 12,93	13 1 13,07		1 14,34		— 1,27	0,259
2085	5	27 56,39		——		——	118 27 56,39		27 58,80		— 2,41	0,235
2086	1	58 21,79	4	——		——	135 58 21,79		58 21,61		+ 0,18	0,121
2087		——		——	5	47 23,19	67 47 23,19		47 23,73		— 0,54	0,099
2088		——		——	3	44 49,22	120 44 49,22		44 42,95		+ 6,27	0,076
2089		——		——	4	16 50,60	81 16 50,60		16 44,44		+ 6,16	0,072
2090	5	27 14,05		——		——	80 27 14,05	27 13,22	27 6,71	+0,83	+ 7,34	+0,062
2091	5	15 18,20		——	3	15 19,85	61 15 18,82	15 18,50	15 15,75	+0,32	+ 3,07	—0,080
2092		——	5	1 41,33		——	86 1 41,33		1 38,49		+ 2,84	0,097
2093		——		——	6	43 33,09	113 43 33,09		43 32,62		+ 0,47	0,118
2094		——		——	5	12 20,93	69 12 20,93		12 19,16		+ 1,77	0,129
2095		——	2	58 33,51		——	69 58 33,51		58 26,96		+ 6,55	0,135
2096	5	5 40,12		——		——	111 5 40,12	5 40,11	5 36,53	+0,01	+ 3,59	0,314
2097		——		——	3	44 58,83	111 44 58,83		44 56,22		+ 2,61	0,354
2098		——	6	46 11,29		——	110 46 11,29	46 10,60	46 6,66	+0,69	+ 4,63	0,443
2099		——	4	25 48,17	3	25 50,75	110 25 49,27		26 45,40		+ 3,87	0,445
2100	4	37 49,17	2	37 49,20		——	58 37 49,18		36 46,08		+ 3,10	0,481
2101	5	48 8,20		——		——	126 48 8,20		48 0,21		+ 7,99	0,536
2102		——		——	5	35 29,59	110 35 29,59		35 27,56		+ 2,03	0,566
2103		——	3	5 42,08	1	5 40,65	117 5 41,72		3 39,72		+ 2,00	0,648
2104		——		——	7	30 49,97	108 30 49,97		30 49,81		+ 0,16	0,656
2105	6	53 28,46		——		——	119 53 28,46	53 23,35	53 25,45	+5,11	+ 3,01	0,884
2106		——	1	53 36,38	4	53 34,53	105 53 34,90		——		——	0,905
2107	5	37 7,44		——		——	65 37 7,44		37 0,44		+ 7,00	1,064
2108		——	3	41 27,66		——	86 41 27,66		41 23,39		+ 4,27	1,083
2109	4	56 4,14		——	1	56 6,46	92 56 4,60	56 8,36	56 2,93	—3,76	+ 1,67	0,414*
2110	5	27 18,19		——		——	124 27 18,19		27 5,18		+ 13,01	1,127
2111		——	5	39 34,09		——	25 39 34,09		39 29,43		+ 6,66	1,129
2112		——		——	6	6 11,65	68 6 11,65		6 10,22		+ 1,43	1,115
2113		——	6	0 23,12		——	54 0 23,12	0 23,39	0 21,98	—0,27	+ 1,14	1,215
2114		——		——	5	50 0,67	120 50 0,67		49 55,29		+ 5,38	1,232
2115	4	3 6,65		——		——	136 3 6,65		2 54,74		+ 11,91	1,255

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Precession.
			No. 1831		No. 1832		No. 1833					Green.	A. S.	
			h.	s.	h.	s.	h.	s.	h. m. s.	s.	s.	s.	s.	s.
2116	6	107 Herculis *t*		——		——	4	27,92	18 14 27,96		27,58		+0,38	+2,335
2117	5.6	Herculis		——		——	3	8,61	18 15 8,64		——		——	2,497
2118	6	21 Sagittarii		——	1	20,51	3	20,96	18 15 20,83		20,42		+,041	3,570
2119	5	Pavonis *v*		——		——		——	18 15 ——		40,89		——	5,615
2120	5	Telescopii ζ	1	52,22		——		——	18 15 52,22		51,68		+0,54	4,609
2121	5.6	109 Herculis F		——		——	2	32,46	18 16 32,48		32,48		0,00	2,538
2122	4	22 Sagittarii λ	6	36,22		——	3	36,34	18 17 36,25	36,17	36,13	+0,08	+0,12	3,704
2123	6	Sagittarii		——		——	1	8,35	18 18 8,33		8,04		+0,29	3,495
2124	5.6	59 Serpentis *d*		——	5	37,01		——	18 18 37,01		36,72		+0,29	3,066
2125	5	Clypei Sob	6	37,28		——		——	18 19 37,28		——		——	3,416
2126	6	Sagittarii *v'*		——	2	3,78		——	18 20 3,76		3,74		+0,02	3,935
2127	6.7	Clypei Sob		——		——		——	18 20 ——				——	3,417
2128	6	Sagittarii		——		——	3	19,40	18 20 19,38		19,10		+0,28	3,522
2129	6	60 Serpentis *c*		——	1	56,68	3	56,82	18 20 56,79		55,83		+0,96	3,117
2130	7	Sagittarii		——		——	3	27,85	18 21 27,83		27,91		—0,08	3,526
2131	5	39 Draconis *b*	4	27,59		——		——	18 21 27,59		27,39		+0,20	0,880
2132	6	Sagittarii		——		——	3	35,79	18 21 35,77		35,49		+0,28	3,513
2133	7	Sagittarii		——		——	3	59,81	18 21 59,79		59,49		+0,30	3,532
2134	6	Herculis H		——		——	4	37,85	18 22 37,88		37,31		+0,57	2,483
2135		Sagittarii *v²*		——		——	3	56,44	19 22 56,40		56,30		+0,10	3,936
2136	7	Sagittarii		——		——		——	18 22 ——		56,79		——	3,666
2137	6.7	Clypie Sob *s²*		——		——		——	18 23 ——		7,63		——	3,424
2138	4	Pavonis ζ		——		——		——	18 23 ——		23,81		——	7,054
2139	6	61 Serpentis *e*		——	4	16,76		——	18 23 16,76		16,86		—0,10	3,094
2140	7	Sagittarii		——		——		——	18 23 ——		19,44		——	3,512
2141	6.7	24 Sagittarii		——	1	37,90		——	18 23 37,89		37,68		+0,21	3,664
2142	6.7	Clypie Sob *s²*		——		——		——	18 24 ——		2,65		——	3,423
2143	4.5	44 Draconis χ		——	3	4,98	1	3,71	18 24 4,73	4,98	4,13	—0,25	+0,60	—1,072*
2144	7	Sagittarii		——		——	3	29,09	18 25 29,07		28,94		+0,13	+3,536
2145	6	Clypie Sob *q*		——		——	3	42,28	18 25 42,27		42,06		+0,21	3,329
2146	6	Herculis		——		——	3	46,74	18 25 46,77		46,60		+0,17	2,491
2147	5.6	1 Aquilæ *m*		——		——	5	4,01	18 26 4,00		3,50		+0,50	3,263
2148	3	23 Ursae Min δ	10	29,14	73	29,42		——	18 26 29,54	30,21	22,21	—0,67	+7,33	—19,168
2149	7	Sagittarii		——		——	4	13,44	18 27 13,42		12,83		+0,59	+3,534
2150	6.7	Sagittarii		——		——	3	50,91	18 27 50,89		50,65		+0,24	3,591
2151	7	Clypie Sob		——		——		——	18 28 ——		6,13		——	+3,483
2152	6	Sagittarii		——		——		——	18 28 ——		17,57		——	3,649
2153	6	Herculis		——		——		——	18 28 ——		30,54		——	2,492
2154	6.7	Sagittarii		——		——		——	18 28 ——		52,48		——	3,582
2155	5	Pavonis	1	56,33	1	56,59		——	18 28 56,43		57,39		—0,96	5,914
2156	1	3 Lyrae *a*	15	15,21	52	15,18	45	14,96	18 31 15,13	15,14	14,79	—0,01	+0,34	2,010
2157	6	26 Sagittarii		——		——	4	36,80	18 31 36,77		36,63		+0,14	3,657
2158	5	Pavonis θ	1	5,35		——	2	5,68	18 32 5,46		9,31		—3,85	5,938
2159	7	Clypei Sob		——		——	4	8,53	18 32 8,51		8,10		+0,41	3,416
2160	5	2 Aquilæ *o*	6	4,60		——		——	18 33 4,60		4,41		+0,19	3,282

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No 1833				Green.	A. S. C.	
	′ ″	′ ″	′ ″	° ′ ″	′ ″	′ ″	″	″	″
2116	—	—	5 12 15,99	61 12 15,99		12 13,89		+ 2,10	—1,257
2117	—	—	2 47 38,56	66 47 38,56		47 45,24		— 6,68	1,321
2118	—	—	—	110 37 —		37 20,05		—	1,330
2119	—	2 22 16,66	1 22 15,06	152 22 16,13		22 9,43		+ 6,70	1,354
2120	—	—	4 9 2,41	139 9 2,41		8 27,88		+ 34,53	1,373
2121	—	—	4 18 0,94	68 18 0,94		17 55,88		+ 5,06	1,438
2122	5 30 24,35	—	—	115 30 21,35	30 20,26	30 21,16	+4,09	+ 3,19	1,527
2123	—	—	—	107 46 —		46 51,56		—	1,574
2124	—	2 53 52,64	2 53 54,11	89 53 53,37		53 42,13		+ 11,24	1,617
2125	6 39 56,36	—	3 39 57,54	104 39 56,75		39 54,19		+ 2,56	1,707
2126	—	—	5 5 25,45	123 5 25,45		5 21,46		+ 3,99	1,741
2127	—	—	—	104 —		41 8,52		—	1,759
2128	—	—	4 49 35,10	108 49 35,10		49 34,14		+ 0,96	1,764
2129	—	4 —	4 5 14,99	92 5 14,99		5 7,92		+ 7,07	1,819
2130	—	—	2 0 24,19	109 0 24,19		0 19,14		+ 5,05	1,864
2131	6 17 40,86	—	—	31 17 40,86		17 39,66		+ 1,20	1,871
2132	—	—	—	108 —		30 29,78		—	1,875
2133	—	—	1 14 6,46	109 14 6,46		14 2,18		+ 4,28	1,910
2134	—	1 14 21,76	4 14 23,81	66 14 23,40		14 23,64		— 0,24	1,968
2135	—	—	—	123 —		7 51,25		—	1,991
2136	—	—	5 13 25,31	114 13 25,31		13 22,56		+ 2,75	1,993
2137	—	—	2 58 49,44	104 58 49,44		58 43,53		+ 5,91	2,009
2138	—	—	2 33 19,91	161 33 19,91		33 15,20		+ 4,71	2,022
2139	—	—	—	91 —		6 51,33		—	2,024
2140	—	—	—	108 —		28 55,76		—	2,026
2141	—	1 8 56,01	2 8 55,73	114 8 55,82		8 50,38		+ 5,44	2,052
2142	—	—	2 58 17,66	104 58 17,66		58 11,78		+ 5,88	2,089
2143	5 20 30,57	4 20 31,34	—	17 20 30,91	20 30,10	20 28,93	+0,81	+ 1,98	2,104
2144	—	1 23 30,06	4 23 31,65	109 23 31,33		23 28,46		+ 2,87	2,214
2145	—	1 6 1,65	3 6 2,03	101 6 1,94		5 59,94		+ 2,00	2,233
2146	—	—	3 30 9,21	66 30 9,21		30 10,27		— 1,06	2,242
2147	—	—	5 21 12,90	98 21 12,90		21 9,17		+ 3,73	2,265
2148	5 24 46,07	1 24 44,20	—	3 24 45,76	24 48,50	24 48,92	—2,74	— 3,16	2,357
2149	—	—	2 20 21,44	109 20 21,44		20 21,95		— 0,51	2,365
2150	—	—	—	111 —		31 35,13		—	2,419
2151	—	—	—	107 —		21 55,14		—	2,441
2152	—	—	—	113 —		38 17,60		—	2,457
2153	—	—	—	66 —		31 28,47		—	2,480
2154	—	—	3 10 56,53	111 10 56,53		10 50,67		+ 5,86	2,508
2155	5 0 56,67	—	—	155 0 56,67		1 19,74		— 23,07	2,508
2156	40 22 5,92	65 22 5,72	51 22 5,78	51 22 5,78	22 5,85	22 4,22	—0,07	+ 1,56	2,718
2157	—	—	—	113 —		58 48,32		—	2,745
2158	—	—	1 14 7,22	155 14 7,22		14 33,00		— 25,78	2,786
2159	—	—	1 42 55,65	104 42 55,65		42 47,99		+ 7,66	2,791
2160	5 12 20,22	1 12 17,96	—	99 12 19,85		12 15,06		+ 4,79	2,873

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.		Green Catal.	A. S. Catal.	Difference from		Annual Precession.
				No.	1831	No.	1832	No.	1833					Green.	A. S.	
					s.		s.		s.	h.	m.	s.	s.	s.	s.	s.
2161	5.6	3 Aquilæ	n		——	4	22,23		——	18	34	22,23		22,32		—0,09	+3,264
2162	6	Sagittarii	s		——		——	5	30,00	18	34	29,97		29,66		+0,31	3,689
2163	4.5	27 Sagittarii	ϕ	3	9,61	4	9,58		——	18	35	9,58	9,55	9,89	+0,03	—0,31	3,745
2164	6	28 Sagittarii			——		——	7	12,77	18	36	12,75	12,72	12,85	+0,03	—0,10	3,616
2165	5.6	4 Aquilæ			——		——	4	21,30	18	36	21,30		21,23		+0,07	3,024
2166	5	Pavonis	λ		——	5	37,93		——	18	36	37,86		39,42		—1,56	5,588
2167	5.6	6 Aquilæ	l		——	5	15,58		——	18	38	15,57		15,56		+0,01	3,182
2168	5	110 Herculis	K	6	25,88	1	26,13		——	18	38	25,91		25,46		+0,45	2,578
2169	5	4 Lyræ	ϵ	2	46,58		——		——	18	38	46,58		45,89		+0,69	1,982
2170	5	5 Lyræ		2	48,64	5	48,91		——	18	38	48,85		47,72		+1,13	1,985
2171	5	6 Lyræ	ζ^1		——		——	4	58,98	18	38	59,00		58,72		+0,28	2,060
2172	5	46 Draconis	C		——		——	5	22,28	18	39	22,39	22,57	22,20	—0,18	+0,19	1,162
2173	5.6	111 Herculis	M		——		——	5	26,30	18	39	26,32		36,10		+0,22	2,640
2174	6	29 Sagittarii	r		——		——	5	42,56	18	39	42,54		41,85		+0,69	3,560
2175	6	30 Sagittarii			——		——	3	44,54	18	40	44,52		44,35		+0,17	3,609
2176	6	31 Sagittarii			——	6	2,68		——	18	42	2,67		2,35		+0,32	3,602
2177	3	10 Lyræ	β	9	52,84	27	52,86	24	52,61	18	43	52,78	52,79	52,21	—0,01	+0,57	2,211
2178	6	33 Sagittarii			——	6	57,61		——	18	43	57,69		57,66		—0,06	3,586
2179	5	32 Sagittarii	ν^1	7	1,57	1	1,56	1	1,57	18	44	1,56	1,51	1,27	+0,05	+0,29	3,623
2180	3	34 Sagittarii	σ	5	50,74		——		——	18	44	50,74	50,71	50,73	+0,03	+0,01	3,722
2181	5	35 Sagittarii	ν^2	3	57,57		——	1	57,38	18	44	57,52	57,70	57,69	—0,18	—0,17	3,621
2182	5.6	112 Herculis	N		——		——	3	5,85	18	45	5,83		5,36		+0,47	2,559
2183	6	Sagittarii			——		——	2	50,49	18	45	50,47		50,04		+0,43	3,634
2184	6	62 Serpentis			——		——	3	16,33	18	47	16,34		15,96		+0,38	2,921
2185	6	36 Sagittarii	ξ^1	1	21,64	2	21,56	3	21,29	18	47	21,42	21,35	21,01	+0,07	+0,41	3,567
2186	5	113 Herculis	O	5	39,81		——		——	18	47	39,81		39,44		+0,37	2,528
2187	5	37 Sagittarii	ξ^2		——	1	41,90		——	18	47	41,89	42,20	42,10	—0,31	—0,21	3,578
2188	4.5	63 Serpentis	θ^1		——		——	3	52,26	18	47	52,27	52,14	51,91	+0,13	+0,36	2,977
2189	5	Serpentis	θ^2		——		——	3	53,58	18	47	53,59	53,50	53,33	+0,09	+0,26	2,977
2190	5.6	9 Aquilæ	k		——	6	3,98		——	18	48	3,97		4,23		—0,26	3,207
2191	5	12 Lyræ	δ^2		——	5	37,99		——	18	48	38,02		37,28		+0,74	2,095
2192	5	47 Draconis	o		——		——	1	43,20	18	48	43,32	42,91	42,45	+0,41	+0,87	0,878
2193	6	64 Serpentis			——		——	1	50,05	18	48	50,06		49,62		+0,44	3,015
2194	6	10 Aquilæ			——		——	5	4,28	18	51	4,30		4,05		+0,25	2,751
2195	6.7	Sagittarii		1	30,20	5	30,09		——	18	51	30,10		29,83		+0,27	3,619
2196	3.4	38 Sagittarii	ζ	6	55,20				——	18	51	55,20	55,26	55,02	—0,06	+0,18	3,823
2197	7	Sagittarii			——			4	57,37	18	51	57,35		57,03		+0,32	3,430
2198	3.4	13 Aquilæ	ϵ		——	6	0,11		——	18	52	0,13	59,99	59,22	+0,14	+0,91	2,723
2199	6.7	Sagittarii			——			3	10,76	18	52	10,73		10,53		+0,20	3,677
2200	3	14 Lyrae	γ	5	39,55	8	39,65	17	39,60	18	52	39,63	39,60	39,02	+0,03	+0,61	2,240
2201	5.6	12 Aquilæ	i		——		——	3	42,62	18	52	42,61		42,54		+0,07	3,204
2202	6	Sagittarii	S		——		——	2	37,57	18	53	37,53		37,49		+0,04	3,858
2203	6	48 Draconis		1	53,88	2	54,13		——	18	53	54,08		53,75		+0,33	1,021
2204	7	14 Aquilæ	g		——		——	3	3,77	18	54	3,76		3,72		+0,04	3,157
2205	4.5	39 Sagittarii	o	4	36,44	1	36,52	2	36,83	18	54	36,56	36,18	36,68	+0,38	—0,12	3,592

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No	1832	No.	1833				Green	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2161		——		——	5	25 58,41	98 25 58,41		26 0,73		— 2,32	—2,985
2162		——		——	4	10 20,57	115 10 20,57		10 11,06		— 9,51	2,995
2163	5	9 17,41		——		——	117 9 17,41	9 16,13	9 14,84	+1,28	+ 2,57	3,052
2164		——	1	33 31,30	4	33 33,51	112 33 33,07	33 37,34	33 31,77	—4,27	+ 1,30	3,143
2165		——		——	5	6 11,71	88 6 11,71		6 9,53		+ 2,18	3,157
2166		——	5	21 58,75		——	152 21 58,75		21 55,87		+ 2,88	3,176
2167		——		——	5	55 18,41	94 55 18,41		55 9,07		+ 9,34	3,321
2168	4	36 32,80	1	36 35,93		——	69 36 33,42		36 27,91		+ 5,51	3,337
2169	5	30 5,43	3	30 6,22		——	50 30 5,73		29 59,00		+ 6,73	3,368
2170	6	33 34,28		——		——	50 33 34,28		33 28,68		+ 5,60	3,371
2171		——	5	33 53,87		——	52 33 53,87		33 53,17		+ 0,70	3,386
2172		——		——	6	37 44,77	34 37 44,77	37 41,84	37 37,16	+2,93	+ 7,61	3,423
2173		——		——	4	59 58,16	71 59 58,16		59 54,10		+ 4,06	3,438
2174		——		——	5	30 29,33	110 30 29,33		30 23,80		+ 5,53	3,444
2175		——		——	5	20 46,88	112 20 46,88		20 42,94		+ 3,94	3,534
2176		——	3	6 37,85	1	6 36,61	112 6 37,54		6 31,61		+ 5,93	3,646
2177	7	49 38,81	36	49 40,46	22	49 39,36	56 49 39,90	49 39,04	49 35,84	+0,86	+ 4,06	3,807
2178		——		——	6	33 21,18	111 33 24,18		33 21,38		+ 2,80	3,811
2179	5	56 33,67		——		——	112 56 33,67	56 34,58	56 32,96	—0,91	+ 0,71	3,816
2180	5	29 46,40		——		——	116 29 46,40	29 47,68	29 47,09	—1,28	— 0,69	3,886
2181	2	52 19,86	3	52 20,45		——	112 52 20,21	52 22,08	52 17,06	—1,87	+ 3,15	3,896
2182		——		——	5	46 12,66	68 46 12,66		46 13,48		— 0,82	3,911
2183		——	2	22 40,61	3	22 42,66	113 22 41,84		22 42,95		— 1,11	3,971
2184		——		——	5	35 15,04	83 35 15,04		35 12,99		+ 2,05	4,096
2185		——		——	4	52 5,69	110 52 5,69	52 5,61	51 59,30	+0,08	+ 6,39	4,101
2186	5	33 40,20		——		——	67 33 40,20		33 40,09		+ 0,11	4,131
2187		——		——	4	19 9,40	111 19 9,40	18 59,92	19 6,25	+9,48	+ 3,15	4,131
2188		——	3	0 31,53	2	0 32,64	86 0 31,97	0 31,68	0 22,63	+0,29	+ 9,34	4,147
2189		——	1	0 34,06		——	86 0 34,06	0 36,58	0 24,41	—2,52	+ 9,65	4,149
2190		——		——	1	3 26,01	96 3 26,01		3 19,83		+ 6,18	4,164
2191	5	18 34,70		——		——	53 18 34,70		18 34,56		+ 0,14	4,214
2192		——	6	48 54,21		——	30 48 54,21	48 54,18	48 54,83	+0,03	— 0,62	4,225
2193		——		——	5	40 41,49	87 40 41,49		40 37,51		+ 3,98	4,229
2194		——		——	5	18 47,27	76 18 47,27		18 35,36		+ 11,91	4,421
2195		——		——	4	55 22,50	112 55 22,50		55 26,93		— 4,43	4,455
2196	5	6 44,50	3	6 44,98		——	120 6 44,66	6 38,79	6 49,58	+5,87	+ 4,08	4,491
2197		——		——	5	30 43,61	105 30 43,61		30 41,65		+ 1,96	4,495
2198	3	9 16,71	2	9 19,60		——	75 9 17,87	9 12,30	9 9,63	+5,57	+ 8,24	4,500
2199		——		——	5	4 16,96	115 4 16,96		4 5,42		+ 11,54	4,513
2200	5	32 7,89	25	32 7,61	17	32 8,86	57 32 8,21	32 9,45	32 6,27	—1,24	+ 1,94	4,558
2201		——		——	3	58 6,28	95 58 6,28		57 59,52		+ 6,76	4,560
2202		——		——		——	121 17 —		17 0,80		——	4,636
2203		——	6	24 19,69		——	32 24 19,69		24 21,67		— 1,98	4,667
2204		——		——	5	56 5,34	93 56 5,34		56 0,92		+ 4,42	4,675
2205		——	5	58 45,41		——	111 58 45,41	58 45,24	58 39,49	+0,17	+ 5,92	4,721

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Precession.
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
2206	5	Cor. Aust. γ	1 4,40	2 3,42	——	18 55 3,75		2,92		+0,83	+4,057
2207	6	15 Aquilæ h	——	——	3 5,56	18 56 5,55		5,15		+0,40	3,165
2208	4	40 Sagittarii τ	1 26,82	——	3 27,00	18 56 26,92	26,92	26,53	0,00	+0,39	3,755
2209	5	52 Draconis v	——	——	1 24,32	18 56 24,55		24,42		+0,13	—0,710
2210	5	Cor. Aust. δ	2 38,68	——	——	18 56 38,68		38,63		+0,05	+4,185
2211	6.7	Sagittarii	——	5 51,90	——	18 56 51,89		51,78		+0,11	3,611
2212	7	Sagittarii	——	——	5 56,01	18 56 55,98		55,75		+0,23	3,783
2213	3	16 Aquilæ λ	1 19,96	5 20,00	——	18 57 19,99	19,99	19,49	0,00	+0,50	3,184
2214	3	17 Aquilæ ζ	14 41,42	28 41,48	21 41,38	18 57 41,44	41,36	40,87	+0,08	+0,57	2,754
2215	7	Sagittarii	——	——	3 58,52	18 57 58,50		58,34		+0,16	3,669
2216	5	Cor. Aust. α	1 2,17	2 2,48	——	18 58 2,36		1,66		+0,70	4,085
2217	6.7	Sagittarii	1 24,44	——	2 24,32	18 58 24,36		23,79		+0,57	3,527
2218	5	Cor. Aust. β	1 27,87	——	——	18 58 27,87		27,67		+0,20	4,138
2219	5.6	18 Aquilæ	——	——	3 4,30	18 59 4,31		3,49		+0,82	2,821
2220	4.5	41 Sagittarii π	1 46,22	3 46,23	2 46,01	18 59 46,15	46,20	46,07	—0,05	+0,08	3,571
2221	7	Sagittarii	——	——	2 53,61	18 59 53,59		53,15		+0,44	3,540
2222	6	19 Aquilæ	——	——	3 46,46	19 0 46,47		45,82		+0,65	2,937
2223	7	Sagittarii	——	6 21,84	——	19 2 21,82		21,59		+0,23	3,410
2224	6	Sagittarii	——	——	5 25,60	19 2 25,58		25,28		+0,30	3,586
2225	6.7	Sagittarii	——	——	5 52,82	19 2 52,79		52,45		+0,34	3,701
2226	5	20 Aquilæ B	5 34,08	1 33,99	——	19 3 34,06		33,53		+0,53	3,254
2227	6	42 Sagittarii ψ	——	4 14,07	2 14,12	19 5 14,08	14,17	14,32	—0,09	—0,24	3,681
2228	6	21 Aquilæ C	——	5 14,61	——	19 5 14,61		14,29		+0,32	3,023
2229	6.7	Sagittarii	——	1 19,13	4 19,01	19 5 19,00		18,27		+0,73	3,651
2230	5	43 Sagittarii d	8 48,24	——	——	19 7 48,22	48,20	47,88	+0,02	+0,34	3,514
2231	6	1 Sagittæ	——	——	5 2,96	19 8 2,98		2,54		+0,44	2,579
2232	5	20 Lyræ η	3 2,27	——	——	19 8 2,27		2,00		+0,27	2,038
2233	6	22 Aquilæ	——	5 12,33	——	19 8 12,34		11,61		+0,73	2,967
2234	5	53 Draconis n	2 29,45	——	——	19 8 29,45		28,92		+0,53	1,133
2235	5	1 Vulpeculæ	6 59,82	——	——	19 8 59,82		59,68		+0,14	2,576
2236	6	Sagittarii	——	——	——	19 9 —		25,31		——	3,430
2237	5	25 Aquilæ ω^1	1 56,20	4 56,04	——	19 9 56,08		55,78		+0,30	2,813
2238	6	23 Aquilæ	——	——	3 59,68	19 9 59,68		58,69		+0,99	3,051
2239	6	24 Aquilæ	——	——	4 15,14	19 10 15,17		15,12		+0,05	3,067
2240	4	Sagittarii β^1	——	——	3 32,69	19 10 32,63		32,68		—0,05	4,331
2241	6	Sagittarii	——	——	3 33,85	19 10 33,83		33,69		+0,14	3,601
2242	5	21 Lyræ θ	——	——	3 31,95	19 10 32,00		31,40		+0,60	2,079
2243	5	54 Draconis p	——	2 55,03	——	19 10 55,08		54,84		+0,24	1,077
2244	4	Sagittarii β^2	——	——	——	19 11 —		4,34		——	4,346
2245	6	26 Aquilæ f	——	——	2 34,74	19 11 34,73		34,57		+0,16	3,196
2246	7	Sagittarii	——	——	——	19 11 —		46,09		——	3,519
2247	6	28 Aquilæ A	——	——	——	19 11 —		49,20		——	2,796
2248	5	44 Sagittarii ρ^1	1 55,38	7 55,60	——	19 11 55,56		55,69		—0,13	3,485
2249	6	27 Aquilæ d	——	——	——	19 11 —		55,28		——	3,095
2250	5.6	45 Sagittarii ρ^2	——	——	——	19 12 —		3,41		——	3,496

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2206	5	17 43,67		——		——	127 17 43,67		17 30,07		+ 13,60	—4,756
2207		——		——	6	16 26,50	94 16 26,50		16 21,72		+ 4,78	4,847
2208	3	54 24,42	2	54 24,58		——	117 54 24,48	54 24,98	54 23,84	—0,50	+ 0,64	4,876
2209		——	5	55 43,06		——	18 55 43,06		55 41,38		+ 1,68	4,885
2210		——		——	5	44 53,05	130 44 53,05		44 46,12		+ 6,93	4,892
2211		——		——	1	44 47,45	112 44 47,45		44 46,71		+ 0,74	4,912
2212		——		——		——	118 ——		53 13,06		——	4,917
2213	5	7 42,77		——		——	95 7 42,77	7 38,21	7 32,39	+4,56	+ 10,38	4,952
2214	13	22 46,99	27	22 48,03	21	22 47,79	76 22 47,68	22 47,92	22 38,58	—0,24	+ 9,10	4,983
2215		——		——		——	114 ——		54 39,74		——	5,006
2216	3	9 21,28	2	9 22,66		——	123 9 21,83		9 17,99		+ 3,84	5,009
2217		——		——		——	109 33 —		——		——	5,042
2218		——	6	35 55,52		——	129 35 55,52		35 48,36		+ 7,16	5,046
2219		——	1	10 52,56	4	10 51,97	79 10 52,09		10 48,71		+ 3,38	5,100
2220	5	16 55,87		——		——	111 16 55,87	16 58,02	16 53,97	—2,15	+ 1,90	5,158
2221		——	1	3 44,36	4	3 46,65	110 3 46,19		3 34,56		+ 11,63	5,168
2222		——		——	6	11 3,11	84 11 3,11		10 58,26		+ 4,85	5,244
2223		——	3	51 22,05	2	51 20,53	104 51 21,44		51 16,89		+ 4,55	5,377
2224		——		——	5	55 42,19	111 55 42,19		55 41,45		+ 0,74	5,382
2225		——	3	10 47,91	3	10 47,58	116 10 47,74		10 46,90		+ 0,84	5,419
2226	5	12 44,93	1	12 44,72		——	98 12 44,90		12 42,97		+ 1,93	5,478
2227		——	7	32 17,95		——	115 32 17,95	32 16,16	32 13,30	+1,79	+ 4,65	5,618
2228		——	5	59 5,09		——	87 59 5,09		58 59,51		+ 5,58	5,620
2229		——		——	4	27 29,73	114 27 29,73		27 20,32		+ 9,41	5,624
2230	5	14 37,89		——		——	109 14 37,89	14 38,43	14 36,10	—0,54	+ 1,79	5,833
2231		——	1	3 18,88	4	3 20,71	69 3 20,34		3 16,29		+ 4,05	5,856
2232	5	8 18,44	1	8 19,50		——	51 8 18,61		8 16,91		+ 1,70	5,857
2233		——		——	5	27 20,92	85 27 20,92		27 12,21		+ 8,71	5,868
2234	3	25 26,68	2	25 24,00		——	33 25 25,62		25 28,66		— 3,04	5,897
2235		——	6	53 59,38		——	68 53 59,38		54 0,50		— 1,12	5,936
2236		——		——	5	49 18,06	105 49 18,06		49 9,70		+ 8,36	5,429*
2237	5	42 2,26		——		——	78 42 2,26		41 57,53		+ 4,73	6,013
2238		——		——	5	12 49,18	89 12 49,18		12 47,18		+ 2,00	6,017
2239		——		——	5	57 19,66	89 57 19,66		57 34,98		— 15,32	6,039
2240	5	45 56,29		——		——	134 45 56,29		45 48,76		+ 7,53	6,060
2241		——		——	3	42 24,52	112 42 24,52		42 23,89		+ 0,63	6,064
2242		——	7	9 41,62		——	52 9 41,62		9 37,48		+ 4,14	6,065
2243		——	3	34 56,05		——	32 34 56,05		34 55,01		+ 1,04	6,100
2244	2	6 24,28		——		——	135 6 24,28		6 17,36		+ 6,92	6,104
2245		——		——	3	43 24,33	95 43 24,33		43 14,86		+ 9,47	6,149
2246		——		——	5	32 29,72	109 32 29,72		32 30,12		— 0,40	6,164
2247		——		——	5	55 43,72	77 55 43,72		55 43,02		+ 0,70	6,171
2248		——		——		——	108 ——		9 18,19		——	6,178
2249		——		——		——	91 ——		11 47,96		——	6,178
2250		——		——		——	108 ——		36 36,64		——	6,189

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833						Green	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2251	5.6	46 Sagittarii υ		——			2	6,42	19	12	6,40		5,97		+0,43	+3,439
2252	4.5	Sagittarii a		——	3	14,39		——	19	12	14,36		13,70		+0,66	4,170
2253	3	57 Draconis δ	10	29,65	20	29,71		——	19	12	29,75	29,71	29,15	+0,04	+0,60	0,023
2254	4	1 Cygni κ	5	12,97	1	13,04		——	19	13	12,99	13,10	12,56	—0,11	+0,43	1,381
2255	6	Sagittarii p		——	2	1,87	2	1,59	19	14	1,70		1,21		+0,49	3,747
2256	6	47 Sagittarii χ^1		——		——	3	2,78	19	15	2,75		2,78		—0,03	3,654
2257	6.7	48 Sagittarii χ^2		——		——	2	9,69	19	15	9,66		9,42		+0,24	3,651
2258	6	49 Sagittarii χ^3		——		——	3	19,14	19	15	19,11		19,42		—0,31	3,639
2259	6	3 Vulpeculæ		——		——	3	58,25	19	15	58,28		57,56		+0,72	2,453
2260	6.7	50 Sagittarii		——	5	17,80		——	19	16	17,78		17,81		—0,03	3,581
2261	6	Sagittarii o		——		——	3	18,94	19	16	18,90		18,69		+0,21	3,799
2262	6	Sagittarii		——	3	37,54	3	37,25	19	16	37,36		36,91		+0,45	3,415
2263	6	2 Sagittæ		——		——	3	49,60	19	16	49,62		48,86		+0,76	2,691
2264	7	Sagittarii		——		——	1	52,48	19	16	52,46		52,13		+0,33	3,403
2265	5	31 Aquilæ b	5	57,65	1	57,72		——	19	16	57,66		57,19		+0,47	2,871*
2266	3.4	30 Aquilæ δ	6	1,67	24	1,74	12	1,67	19	17	1,71	1,59	1,33	+0,12	+0,38	3,007
2267	5.6	2 Cygni a		——		——	1	30,13	19	17	30,17		29,72		+0,45	2,361
2268	5.6	32 Aquilæ ν		——		——	3	55,65	19	17	55,65		55,38		+0,27	3,068
2269	6	4 Vulpeculæ		——		——			19	18	—		6,13		——	2,623
2270	6	Sagittarii		——		——	2	18,76	19	18	18,74		18,59		+0,15	3,494
2271	6	3 Cygni		——		——		——	19	18	—		28,50		——	2,491
2272	4.5	60 Draconis τ		——		——		——	19	18	—	44,56	43,82		——	—1,057
2273	7	Sagittarii Q		——	2	28,27	2	28,20	19	19	28,20		28,34		—0,14	+3,717
2274	4	58 Draconis π	4	47,13		——		——	19	19	47,13	47,60	47,06	—0,47	+0,07	0,326
2275	6	35 Aquilæ c		——	4	31,49		——	19	20	31,49		30,84		+0,65	3,033
2276	6	Sagittarii		——	5	55,51		——	19	20	55,50		55,30		+0,20	3,566
2277	4	6 Vulpeculæ b	5	43,03	1	42,95	7	42,83	19	21	42,93	43,05	42,30	—0,12	+0,63	2,502
2278	6	36 Aquilæ e		——	3	52,84		——	19	21	52,83		51,45		+1,38	3,137
2279	5.6	8 Vulpeculæ		——		——	5	56,31	19	21	56,34		55,93		+0,41	2,500
2280	7	Sagittarii		——		——	3	11,58	19	22	11,55		11,26		+0,29	3,743
2281	3	6 Cygni β^1	5	56,89	9	56,94		——	19	23	56,93	56,84	56,47	+0,09	+0,46	2,416
2282	7	Sagittarii		——		——	3	25,00	19	24	24,97		24,71		+0,26	3,629
2283	6	Vulpeculæ		——		——	4	44,37	19	24	44,39		44,21		+0,18	2,600
2284	5	10 Cygni ι		——	4	28,21		——	19	25	28,25	28,20	27,94	+0,05	+0,31	1,511
2285	6.7	Sagittarii		——		——	3	32,49	19	25	32,46		32,48		—0,02	3,614
2286	7	Sagittarii	1	39,42		——	5	39,09	19	25	39,13		39,01		+0,12	3,549
2287	6	51 Sagittarii h^1		——		——	1	49,22	19	25	49,19		49,21		—0,02	3,650
2288	5	37 Aquilæ K	5	51,90	1	51,68		——	19	25	51,86		51,45		+0,41	3,308
2289	4.5	38 Aquilæ μ	1	53,12	3	53,03	1	52,96	19	25	53,03	52,94	52,54	+0,09	+0,49	2,915
2290	4.5	52 Sagittarii h^2	1	28,65	3	28,78		——	19	26	28,74	28,64	28,36	+0,10	+0,38	3,654
2291	7	Sagittarii		——		——	3	38,31	19	26	38,29		37,87		+0,42	3,501
2292	5.6	9 Velpeculæ		——		——	3	12,14	19	27	12,16		11,56		+0,60	2,631
2293	7	Sagittarii		——	4	18,31		——	19	27	18,29		17,89		+0,40	3,486
2294	4	39 Aquilæ κ		——	1	51,04	3	51,03	19	27	51,03	51,06	50,99	—0,03	+0,04	3,229
2295	5	41 Aquilæ ι	4	1,62		——		——	19	28	1,62		1,73		—0,11	3,104

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.		Green-wich Cata-logue.		A. S. Cata-logue.		Difference from			Annual Precession
	No.	1831	No.	1832	No.	1833							Green.	A. S. C.		
		′ ″		′ ″		′ ″	° ′ ″		′ ″		′ ″		″		″	″
2251		——		——		——	106	——			15	42,50			——	—6,192
2252		——	4	55 22,09		——	130	55 22,09			55	14,46		+	7,63	6,201
2253		——		——		——	22	——	38	2,68	38	2,92			——	6,234
2254	5	56 19,54		——		——	36	56 19,54	56	19,46	56	19,35	+0,08	+	0,19	6,290
2255		——		——	3	10 55,14	118	10 55,14			10	55,69		—	0,55	6,351
2256		——	2	49 39,51	3	49 39,43	114	49 39,46			49	32,29		+	7,17	6,436
2257		——		——	5	44 0,93	114	44 0,93			43	55,50		+	5,43	6,445
2258		——		——	5	17 0,54	114	17 0,54			16	57,49		+	3,05	6,459
2259		——	1	3 14,57	4	3 16,17	64	3 15,85			3	16,99		—	1,14	6,515
2260		——		——	5	6 5,43	112	6 5,43			6	0,88		+	4,55	6,540
2261		——		——		——	120	——			3	57,65			——	6,540
2262		——		——		——	105	——			22	40,37			——	6,567
2263		——		——		——	73	——			22	55,10			——	6,585
2264		——		——		——	104	——			52	35,28			——	6,588
2265	5	24 29,13	4	24 28,80		——	78	24 28,99			24	25,91		+	3,08	7,316*
2266	12	12 49,77	23	12 50,13	12	12 50,18	87	12 50,05	12	49,41	12	43,92	+0,64	+	6,13	6,601
2267		——		——		——	60	——			42	0,93			——	6,642
2268		——	5	59 27,22		——	89	59 27,22			59	19,22		+	8,00	6,676
2269		——		——	5	31 30,06	70	31 30,06			31	24,59		+	5,47	6,692
2270		——		——	5	41 26,12	108	41 26,12			41	27,55		—	1,43	6,706
2271		——		——	5	23 8,76	65	23 8,76			23	6,10		+	2,66	6,003*
2272	5	57 31,97		——		——	16	57 31,97	57	32,46	57	28,95	—0,49	+	3,02	6,753
2273		——	1	19 17,73	4	19 18,45	117	19 18,31			19	13,94		+	4,37	6,801
2274	5	36 31,73		——		——	24	36 31,73	36	30,69	36	28,91	+1,04	+	2,82	6,836
2275		——		——	5	23 8,01	88	23 8,01			23	2,31		+	5,70	6,889
2276		——	2	39 12,29	3	39 12,92	111	39 12,77			39	11,01		+	1,76	6,921
2277	5	40 12,53	5	40 12,97	1	40 12,83	65	40 12,76	40	11,76	40	8,68	+1,00	+	4,08	6,988
2278		——	4	7 53,70		——	93	7 53,70			7	49,66		+	4,04	6,999
2279		——		——	5	34 21,63	65	34 21,63			34	18,31		+	3,32	7,007
2280		——		——	4	19 58,18	118	19 58,18			19	19,52			——	7,024
2281	6	23 16,39	3	23 16,41		——	62	23 16,40	23	17,22	23	14,02	—0,82	+	2,38	7,171
2282		——	2	12 51,30	3	12 52,48	114	12 52,01			12	50,40		+	1,61	7,206
2283		——	2	25 19,99	3	25 21,97	69	25 21,18			25	19,04		+	2,14	7,236
2284	5	37 29,06		——		——	38	37 29,06	37	30,11	37	29,00	—1,05	+	0,06	7,298
2285		——		——	5	40 7,01	113	40 7,01			40	6,84		+	0,17	7,299
2286		——		——	3	8 5,59	111	8 5,59			7	57,70		+	7,89	7,308
2287		——		——	5	4 48,62	115	4 48,62			4	41,14		+	7,48	7,321
2288	2	55 11,22	1	55 12,74		——	100	55 11,72			55	8,58		+	3,14	7,325
2289	5	58 14,00	3	58 14,42	5	58 14,64	82	58 14,35	58	15,20	58	12,07	—0,85	+	2,28	7,328
2290		——	5	14 49,48		——	115	14 49,48	14	45,79	14	43,41	+3,69	+	6,07	7,374
2291		——	3	12 56,16	2	12 58,14	109	12 56,95			12	56,72		+	0,23	7,387
2292		——	1	35 17,70	4	35 17,19	70	35 17,29			35	11,79		+	5,50	7,436
2293		——	1	35 44,43	3	35 44,92	108	35 44,80			35	44,48		+	0,32	7,442
2294	5	23 37,87		——		——	97	23 37,87	23	39,84	23	34,97	—1,97	+	2,90	7,487
2295	5	39 7,79		——		——	91	39 7,79			39	3,53		+	4,26	7,502

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
2296	5.6	9 Cygni		——		——	4	10,62	19 28 10,66		10,22		+0,44	+2,379
2297	6	42 Aquilæ P		——	4	52,63	1	52,73	19 28 52,64		52,18		+0,46	3,177
2298	6	4 Sagittæ ϵ		——		——	4	41,11	19 29 41,13		41,17		—0,04	2,712
2299	7	53 Sagittarii		——		——	4	43,40	19 29 43,38		43,15		+0,23	3,613
2300	6.7	Sagittarii		——		——	4	0,80	19 30 0,78		0,85		—0,07	3,613
2301	5	44 Aquilæ σ	6	54,25		——		——	19 30 54,25		54,53		—0,28	2,960
2302	5.6	54 Sagittarii e^1		——	2	5,85	2	5,56	19 31 5,69		5,56		+0,13	3,437
2303	4	13 Cygni θ	3	55,93		——	2	55,85	19 31 55,94	56,15	55,64	—0,21	+0,30	1,611
2304	6	45 Aquilæ		——		——	5	4,14	19 32 4,14		3,81		+0,33	3,090
2305	4	5 Sagittæ a	3	35,32	6	35,41		——	19 32 35,39	35,39	34,91	0,00	+0,48	2,678
2306	5	61 Draconis σ		——	5	39,98		——	19 32 40,07		39,04		+1,03	—0,110*
2307	4	12 Cygni ϕ		——		——	6	44,41	19 32 44,45	44,58	44,57	—0,13	—0,12	+2,365
2308	5	55 Sagittarii e^2	2	54,47	3	54,42		——	19 32 54,43		54,06		+0,37	3,432
2309	5	6 Sagittæ β	2	30,29	3	30,28		——	19 33 30,29		30,02		+0,27	2,691
2310	6	Sagittarii		——		——	5	58,28	19 33 58,26		57,85		+0,41	3,416
2311	6	47 Aquilæ χ		——	4	39,96		——	19 34 39,96		39,44		+0,52	2,820
2312	6.7	Sagittarii		——		——	5	45,35	19 34 45,31		45,41		—0,10	3,812
2313	6	56 Sagittarii f	1	33,52	3	33,51	4	33,36	19 36 33,43	33,52	33,41	—0,09	+0,02	3,516
2314	6	10 Vulpeculæ d		——		——	3	43,87	19 36 43,90		43,17		+0,73	2,490
2315	6	Vulpeculæ		——		——	5	3,38	19 37 3,38		3,09		+0,29	2,454
2316	5	15 Cygni	6	13,14	1	13,44		——	19 38 13,15		12,85		+0,30	2,154
2317	3	50 Aquilæ γ	24	16,40	53	16,42	13	16,43	19 38 16,43	16,40	16,29	+0,03	+0,14	2,849
2318	6.7	Sagittarii		——		——	3	36,44	19 38 36,42		36,18		+0,24	3,373
2319	7	Sagittarii		——		——	5	29,10	19 39 29,09		28,75		+0,34	3,342
2320	6	Aquilæ		——		——	4	46,18	19 39 46,17		45,70		+0,47	3,310
2321	3.4	18 Cygni δ	6	43,22		——		——	19 39 43,22	43,55	43,19	—0,33	+0,03	1,868
2322	4	7 Sagittæ δ	4	53,90		——		——	19 39 53,90	53,94	53,62	—0,04	+0,28	2,672
2323	5	17 Cygni χ	4	3,24	1	3,05		——	19 40 3,20		2,63		+0,57	2,271
2324	6	52 Aquilæ π		——		——	3	47,19	19 40 47,20		46,73		+0,47	2,824
2325	4	Pavonis ϵ		——		——	3	1,21	19 41 1,01		59,60		+1,41	7,109
2326	5.6	51 Aquilæ D		——		——	3	31,90	19 41 31,89		31,41		+0,48	3,307
2327	5	8 Sagittæ ζ		——	4	31,37		——	19 41 31,38		30,83		+0,55	2,659
2328	5.6	57 Sagittarii	1	26,05	4	25,93		——	19 42 25,95		25,83		+0,12	3,494
2329	12	53 Aquilæ a	29	35,22	60	35,22	45	35,24	19 42 35,23	35,22	35,04	+0,01	+0,19	2,924*
2330	5.6	54 Aquilæ o		——		——	3	58,72	19 42 58,73		58,26		+0,47	2,856
2331	4.5	Sagittarii E	6	39,87		——		——	19 43 39,87		39,12		+0,75	4,162
2332	5.6	12 Vulpeculæ c		——		——	3	50,06	19 43 50,08		49,43		+0,65	2,578
2333	4	55 Aquilæ η		——	3	54,91		——	19 43 54,91	54,73	54,24	+0,18	+0,67	3,056
2334	6	56 Aquilæ E		——		——	4	1,19	19 45 1,18		1,02		+0,16	3,258
2335	6	58 Sagittarii ω		——		——	4	32,44	19 45 32,41	32,36	32,18	+0,05	+0,23	3,671
2336	5	59 Aquilæ ξ	8	6,45		——		——	19 46 6,45		5,96		+0,49	2,899
2337	6	58 Aquilæ		——		——	4	8,37	19 46 8,37		8,44		—0,07	3,071
2338	5	13 Vulpeculæ	4	19,38	1	19,50		——	19 46 19,40		18,99		+0,41	2,545
2339	5	59 Sagittarii b		——	3	37,84		——	19 46 37,83	37,74	37,63	+0,09	+0,20	3,693
2340	3.4	60 Aquilæ β	23	3,69	38	3,74	9	3,67	19 47 3,72	3,74	3,55	—0,02	+0,17	2,943

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2296		——		——	3	54 6,22	60 54 6,22		54 4,64		+ 1,58	—7,515
2297		——	4	1 0,68	1	0 58,95	95 1 0,33		0 50,89		+ 9,44	7,570
2298		——	1	54 29,61	3	54 30,56	73 54 30,32		54 27,59		+ 2,73	7,637
2299		——	1	48 2,83	3	48 4,86	113 48 4,35		47 59,60		+ 4,75	7,638
2300		——		——	4	48 17,83	113 48 17,83		48 12,50		+ 5,33	7,661
2301	2	58 45,55	6	58 49,28		——	84 58 48,04		58 39,71		+ 8,33	7,735
2302		——		——	6	40 14,86	106 40 14,86		40 9,90		+ 4,96	7,749
2303	5	9 56,79	1	9 59,25		——	40 9 57,20	9 53,06	9 50,72	+4,14	+ 6,48	7,821
2304		——		——	5	0 13,64	91 0 13,64		0 8,89		+ 4,75	7,828
2305	5	21 59,52		——	1	22 0,86	72 21 59,74	22 0,64	21 54,00	—0,90	+ 5,74	7,871
2306		——	6	37 30,67		——	20 37 30,67		37 31,69		— 1,02	5,764*
2307	4	13 47,70	1	13 45,52	3	13 47,98	60 13 47,63	13 44,19	13 39,34	+3,44	+ 8,29	7,885
2308		——	2	30 37,67	3	30 36,51	106 30 36,97		30 31,17		+ 5,80	7,895
2309	5	54 24,19	1	54 24,28		——	72 54 24,20		54 22,92		+ 1,28	7,945
2310		——	2	51 8,70	2	51 11,15	105 51 9,92		51 0,98		+ 8,94	7,980
2311		——		——	5	33 44,87	78 33 44,87		33 39,77		+ 5,10	8,037
2312		——		——	5	17 52,80	121 17 52,80		17 49,12		+ 3,68	8,042
2313		——	5	9 31,71		——	110 9 31,71	9 27,07	9 25,54	+4,64	+ 6,17	8,187
2314		——		——	5	37 33,76	64 37 33,76		37 23,55		+ 10,21	8,203
2315		——		——	5	15 38,51	63 15 38,51		——		——	8,229
2316	5	2 47,25		——		——	53 2 47,25		2 43,51		+ 3,74	8,323
2317	37	47 28,17	51	47 28,70	18	47 28,84	79 47 28,53	47 25,10	47 22,32	+3,43	+ 6,21	8,326
2318		——	1	6 35,28	4	6 33,58	104 6 33,92		6 32,78		+ 1,14	8,351
2319		——		——	5	43 43,76	102 43 43,76		43 41,92		+ 1,84	8,420
2320		——	3	16 52,25	2	16 55,69	101 16 53,64		16 48,62		+ 5,02	8,443
2321		——	5	16 34,52		——	45 16 34,52	16 32,25	16 28,96	+2,27	+ 5,56	8,443
2322	5	52 28,20		——		——	71 52 28,20	52 30,05	52 27,07	—1,85	+ 1,13	8,455
2323	5	39 31,13		——		——	56 39 31,13		39 28,67		+ 2,46	8,468
2324		——		——	5	35 43,65	78 35 43,65		35 42,43		+ 1,22	8,525
2325		——		——	4	20 24,34	163 20 24,34		20 9,12		+ 15,22	8,530
2326		——		——		——	101 ——		10 50,86		——	8,582
2327	4	16 24,01		——		——	71 16 24,01		16 19,53		+ 4,48	8,583
2328		——	2	27 53,23	1	27 53,44	109 27 53,30		27 44,17		+ 9,13	8,653
2329	70	34 8,21	60	34 8,24	50	34 8,18	81 34 8,21	34 10,65	34 5,48	—2,44	+ 2,73	8,667
2330		——		——	5	0 0,82	80 0 0,82		59 53,97		+ 6,85	8,698
2331		——	2	18 5,82	3	18 4,03	132 18 4,75		18 2,90		+ 1,85	8,748
2332		——	4	48 38,63		——	67 48 38,63		48 37,88		+ 0,75	8,765
2333	5	25 10,73		——		——	89 25 10,73	25 10,10	25 5,24	+0,63	+ 5,49	8,771
2334		——		——	4	0 11,86	99 0 11,86		0 6,61		+ 5,25	8,857
2335		——		——	5	44 14,14	116 44 14,14	44 15,46	44 11,55	—1,32	+ 2,59	8,897
2336	3	58 3,05	5	58 2,95		——	81 58 2,99		57 55,72		+ 7,27	8,943
2337		——	1	9 36,44	5	9 39,40	90 9 38,90		9 31,17		+ 7,73	8,946
2338	2	21 9,81	2	21 11,90	1	21 9,44	66 21 10,58		21 8,43		+ 2,15	8,961
2339	5	36 25,08		——		——	117 36 25,08	36 26,50	36 21,41	—1,42	+ 3,67	8,982
2340	26	0 22,86	19	0 23,28	12	0 22,11	84 0 22,84	0 24,90	0 21,49	—2,06	+ 1,35	8,478*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833						Green	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2341	6	61 Aquilæ ϕ		——		——	3	16,96	19	48	16,97		16,59		+0,38	+2,837
2342	6	10 Sagittæ		——		——	3	23,55	19	48	23,57		23,19		+0,38	2,723
2343	6	61 Sagittarii g		——		——	3	24,88	19	48	24,86		25,26		—0,40	3,408
2344	5.6	60 Sagittarii a		——		——	3	42,58	19	48	42,55	42,58	42,47	—0,03	+0,08	3,665
2345	7	Sagittarii		——		——	3	36,55	19	49	36,53		36,13		+0,40	3,564
2346	5	22 Cygni	3	51,52	6	51,73		——	19	49	51,68		51,22		+0,46	2,140
2347	6	11 Sagittæ		——		——	2	7,87	19	50	7,89		7,53		+0,36	2,721
2348	4.5	12 Sagittæ γ	6	17,18	6	17,21		——	19	51	17,20	17,25	16,74	—0,05	+0,46	2,660
2349	6	Sagittarii		——	6	24,42	1	24,69	19	51	24,45		24,17		+0,28	3,574
2350	5	14 Velpeculæ f	7	58,15		——		——	19	51	58,15		57,53		+0,62	2,576
2351	4	Pavonis δ		——	1	10,09		——	19	52	10,00		8,69		+1,31	5,794
2352	4.5	62 Sagittarii c		——	3	19,16	4	19,03	19	52	19,08	19,11	18,82	—0,03	+0,26	3,700
2353	6	13 Sagittæ χ		——		——	3	28,02	19	52	28,04		28,06		—0,02	2,706
2354	6	63 Sagittarii		——		——	5	33,65	19	52	33,64		33,11		+0,53	3,364
2355	5	Sagittarii L[1]	2	40,00	4	39,70		——	19	53	39,78		38,85		+0,93	3,818
2356	6.7	Sagittarii		——	4	46,55		——	19	53	46,54		46,51		+0,03	3,568
2357	5	15 Vulpeculæ g	4	11,17		——		——	19	54	11,17		10,55		+0,62	2,462
2358	5	Vulpeculæ		——	2	37,65	2	37,83	19	54	37,75		37,55		+0,20	2,538
2359	6	16 Vulpeculæ h		——		——	3	53,86	19	54	53,89		54,00		—0,11	2,535
2360	6	62 Aquilæ		——		——	3	43,83	19	55	43,83		43,80		+0,03	3,092
2361	6	64 Sagittarii Y		——		——	2	48,59	19	55	48,58		48,30		+0,28	3,318
2362	6	14 Sagittæ y		——		——	3	48,98	19	55	49,00		48,28		+0,72	2,742
2363	5.6	63 Aquilæ τ		——		——		——	19	55	—		55,75		——	2,929
2364	6	65 Sagittarii		——		——	2	5,52	19	56	5,51		4,96		+0,55	3,341
2365	6	15 Sagittæ z		——	5	33,59		——	19	56	33,60		32,77		+0,83	2,686*
2366	6	16 Sagittæ η		——	5	42,55		——	19	57	42,56		42,04		+0,52	2,656
2367	7	Capricorni		——	4	0,28	2	0,24	19	59	0,26		59,76		+0,50	3,390
2368	7	Capricorni		——		——	5	20,05	19	59	20,04		19,90		+0,14	3,284
2369	6	64 Aquilæ		——		——	5	21,31	19	59	21,31		21,13		+0,18	3,092
2370	5.6	17 Vulpeculæ i		——		——	5	40,10	19	59	40,07		40,56		—0,49	2,573
2371	5	67 Draconis ρ	6	1,87	5	1,72		——	20	2	1,84	2,29	0,94	—0,45	+0,90	0,304
2372	3.4	65 Aquilæ θ	6	38,14	6	38,17	6	38,15	20	2	38,15	38,12	37,98	+0,03	+0,17	3,095
2373	6.7	1 Capricorni ξ^1		——	4	39,08		——	20	2	39,08		38,85		+0,23	3,331
2374	6	66 Draconis	4	51,70		——		——	20	2	51,70		50,97		+0,73	0,952
2375	5	2 Capricorni ξ^2		——		——	6	4,10	20	3	4,09		3,59		+0,50	3,335
2376	5	28 Cygni b^2	3	11,57		——		——	20	3	11,57		10,94		+0,63	2,223
2377	6	18 Vulpeculæ		——		——	4	33,02	20	3	33,05		32,70		+0,35	2,499
2378	6	Sagittarii R		——	3	47,95		——	20	4	47,94		44,95		+2,99	3,747*
2379	6	19 Vulpeculæ		——		——	3	47,24	20	4	47,27		46,08		+1,19	2,503
2380	6	20 Vulpeculæ k		——		——	5	58,18	20	4	58,21		57,27		+0,94	2,511
2381	5	67 Aquilæ ρ		——	1	30,24	4	30,26	20	6	30,27		30,06		+0,21	2,770
2382	6.7	3 Capricorni		——		——	6	4,53	20	7	4,52		3,98		+0,54	3,327
2383	5.6	21 Vulpeculæ l		——	6	20,59		——	20	7	20,61		20,33		+0,28	2,460
2384	6	4 Capricorni		——		——	4	8,81	20	8	8,79		8,80		—0,01	3,533
2385	5.6	22 Vulpeculæ m		——		——	4	14,93	20	8	14,96		14,52		+0,44	2,587

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2341		——	5	0 57,80		——	79 0 57,80		0 57,18		+ 0,62	— 9,113
2342		——		——	5	48 14,67	73 48 14,67		48 9,71		+ 4,96	9,122
2343		——		——	4	55 49,13	105 55 49,13		55 36,57		+ 12,56	9,123
2344		——		——	5	38 32,78	116 38 32,78	38 34,28	38 32,06	—1,50	+ 0,72	9,145
2345		——		——	5	39 32,07	112 39 32,07		39 32,20		— 0,13	9,215
2346		——	4	57 21,03	1	57 20,89	51 57 21,00		57 14,78		+ 6,22	9,238
2347		——	4	39 23,95	6	39 23,63	73 39 23,76		39 19,02		+ 4,74	9,257
2348	5	57 31,54	3	57 31,03		——	70 57 31,35	57 31,54	57 20,74	—0,19	+ 10,61	9,347
2349		——		——	5	11 27,94	113 11 27,94		11 26,22		+ 1,72	9,354
2350	4	21 7,95	1	21 9,42		——	67 21 8,24		21 0,65		+ 7,59	9,400
2351		——	5	35 51,31		——	156 35 51,31		35 25,09		+ 26,22	9,406
2352	5	10 7,84	1	10 5,02		——	118 10 7,37	10 8,80	10 3,86	—1,43	+ 3,51	9,424
2353		——	3	56 10,70	2	56 13,61	72 56 11,86		56 8,48		+ 3,38	9,439
2354		——		——	5	5 42,84	104 5 42,84		5 39,72		+ 3,12	9,443
2355	5	31 12,86		——		——	122 31 12,86		31 10,23		+ 2,63	9,527
2356		——	3	3 32,24	2	3 33,09	113 3 32,58		3 36,06		— 3,48	9,537
2357	4	42 19,52		——	1	42 17,95	62 42 19,21		42 16 97		+ 2,24	9,571
2358	2	39 36,53	5	39 39,62		——	65 39 38,74		39 41,43		— 2,69	9,605
2359		——	5	31 38,72		——	65 31 38,72		31 35,52		+ 3,20	9,626
2360		——	4	10 18,03		——	91 10 18,03		10 7,95		+ 10,08	9,688
2361		——		——	6	4 5,43	102 4 5,43		3 57,49		+ 7,94	9,693
2362		——		——	5	26 5,02	74 26 5,02		25 57,19		+ 7,83	9,695
2363		——		——	5	11 23,15	83 11 23,15		11 21,03		+ 2,12	9,704
2364		——		——	5	7 58,05	103 7 58,05		7 51,36		+ 6,69	9,715
2365		——		——	5	22 45,07	73 22 45,07		22 37,32		+ 7,75	9,752
2366		——	5	29 8,04		——	70 29 8,04		29 3,60		+ 4,44	9,840
2367		——	2	30 25,30	3	30 28,40	105 30 26,85		30 18,74		+ 8,11	9,937
2368		——		——	9	32 34,64	100 32 34,64		32 31,06		+ 3,58	9,962
2369		——	4	9 20,62		——	91 9 20,62		9 17,11		+ 3,51	9,964
2370		——	5	51 53,18		——	66 51 53,18		51 51,14		+ 2,04	9,990
2371	5	36 15,88	2	36 16,04		——	22 36 15,94	36 21,38	36 18,53	—5,44	— 2,59	10,173
2372	6	18 49,27	7	18 48,94	5	18 48,84	91 18 49,02	18 48,13	18 45,84	+0,89	+ 3,18	10,212
2373		——	5	53 2,39		——	102 53 2,39		53 1,86		+ 0,53	10,213
2374	4	29 23,32		——		——	28 29 23,32		29 29,16		— 5,84	10,234
2375		——		——	5	6 8,62	103 6 8,62		6 5,25		+ 3,37	10,244
2376	4	38 58,67		——		——	53 38 58,67		38 58,19		+ 0,48	10,256
2377		——	2	35 15,86	2	35 17,22	63 35 16,53		35 14,78		+ 1,75	10,282
2378		——	5	31 35,99		——	117 31 35,99		31 26,39		+ 9,60	11,129*
2379		——		——	6	41 10,18	63 41 10,18		41 7,67		+ 2,51	10,374
2380		——	5	1 3,07		——	64 1 3,07		1 2,84		+ 0,23	10,388
2381	2	18 33,28	5	18 35,42		——	75 18 34,52		18 22,70		+ 11,82	10,503
2382		——	3	50 38,70	2	50 39,83	102 50 39,15		50 33,37		+ 5,78	10,543
2383		——	1	48 30,40	4	48 34,07	61 48 33,34		48 36,83		— 3,49	10,566
2384		——	4	19 18,85		——	112 19 18,85		19 13,46		+ 5,39	10,623
2385		——		——	5	59 57,77	66 59 57,77		59 55,43		+ 2,34	10,632

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green. Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833						Green	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2386	4	5 Capricorni a^1	6	19,94	5	19,94		——	20	8	19,94	19,83	19,68	+0,11	+0,26	+3,330
2387	4	31 Cygni o^2	3	20,61	6	20,66		——	20	8	20,66	20,59	20,22	+0,07	+0,44	1,886
2388	3	6 Capricorni a^2	16	43,72	7	43,69		——	20	8	43,71	43,68	43,64	+0,03	+0,07	3,331
2389	4.5	23 Vulpeculæ n	5	48,55	2	48,83		——	20	8	48,64	48,60	48,25	+0,04	+0,39	2,484
2390	6	18 Sagittæ		——	2	56,93	3	57,05	20	8	57,03		56,41		+0,62	2,632
2391	4.5	33 Cygni	3	29,19		——		——	20	9	29,19	29,34	28,36	—0,15	+0,83	1,392
2392	5	24 Vulpeculæ o		——		——	3	35,77	20	9	35,80		35,78		+0,02	2,562
2393	5.6	7 Capricorni σ		——	2	41,75		——	20	9	41,74	41,63	41,56	+0,11	+0,18	3,471
2394	4.5	32 Cygni		——		——	5	16,35	20	10	16,42	16,78	16,81	—0,36	—0,39	1,852
2395	7	Capricorni β^1		——	1	20,01	4	19,91	20	11	19,91		19,57		+0,34	3,376
2396	5	8 Capricorni ν		——	5	20,52		——	20	11	20,51		20,40		+0,11	3,333
2397	3.4	9 Capricorni β^*		——	2	34,01	3	34,02	20	11	34,00	34,01	33,79	—0,01	+0,21	3,375
2398	2	Pavonis α		——		——	4	18,45	20	12	18,33		18,54		—0,21	4,811
2399	4.5	1 Cephei ν	4	23,71	2	23,45		——	20	14	23,68	23,85	20,39	—0,17	+3,29	—1,882*
2400	6	25 Vulpeculæ		——	6	50,27		——	20	14	50,28		50,02		+0,26	+2,575*
2401	3	37 Cygni γ	6	11,84	25	12,14		——	20	16	12,10	12,19	11,60	—0,09	+0,50	2,148
2402	5	39 Cygni h	6	9,12	1	9,44		——	20	17	9,18		9,01		+0,17	2,387
2403	5	10 Capricorni π	2	41,95	3	41,90		——	20	17	41,90		41,80		+0,10	3,443
2404	5	11 Capricorni ρ	3	16,23	2	16,33	3	16,31	20	19	16,28	16,27	15,74	+0,01	+0,54	3,432
2405	6.7	Capricorni		——	6	24,83		——	20	19	24,81		24,43		+0,38	3,424
2406	6	Capricorni f		——	5	39,46		——	20	19	39,45		39,28		+0,17	3,532
2407	7	Capricorni o^1		——	2	14,38		——	20	20	14,37		14,41		—0,04	3,448
2408	6	12 Capricorni o^2		——	6	15,66	3	15,64	20	20	15,64		15,61		+0,03	3,448
2409	5	69 Aquilæ G	6	52,04		——		——	20	20	52,04		51,70		+0,34	3,134
2410	6	1 Delphini		——		——	6	15,56	20	22	15,57		14,92		+0,65	2,870
2411	4.5	41 Cygni i	6	31,93	2	31,91	5	31,69	20	22	31,85	32,07	31,83	—0,22	+0,02	2,446
2412	6	Capricorni		——		——	6	51,48	20	22	51,45		51,22		+0,23	3,586
2413	6	Capricorni u		——	5	12,08		——	20	23	12,05		10,94		+1,11	3,268
2414	7	Capricorni		——	5	50,41		——	20	24	50,40		49,78		+0,62	3,343
2415	5	45 Cygni ω^2	6	51,33		——		——	20	24	51,33		50,76		+0,57	1,854
2416	4	2 Delphini ϵ	7	11,28		——	2	11,25	20	25	11,28	11,21	10,88	+0,07	+0,40	2,864
2417	3	Indi α		——	7	43,25		——	20	25	43,21		43,37		—0,16	4,257
2418	7	Capricorni		——	4	1,46		——	20	26	1,45		1,01		+0,44	3,399
2419	6	3 Delphini η		——		——	5	0,36	20	26	0,37		59,93		+0,44	2.831
2420	5	46 Cygni ω^3		——		——	1	8,05	20	26	8,13		7,64		+0,49	1,848
2421	5	Pavonis ν		——		——	6	26,63	20	26	26,54		24,98		+1,56	5,640
2422	5	2 Cephei θ	3	45,08		——		——	20	26	45,08		44,05		+1,03	1,016
2423	5	4 Delphine ζ	6	27,30		——	4	27,31	20	27	27,32		26,78		+0,54	2,800
2424	6	13 Capricorni τ^1		——		——	3	55,60	29	27	55,58		55,43		+0,15	3,369
2425	5.6	70 Aquilæ II		——		——	7	58,69	20	27	58,69		58,61		+0,08	3,126
2426	3	Pavonis β	2	42,96	3	43,12		——	20	29	43,02		43,45		—0,43	5,546
2427	5	71 Aquilæ I	4	39,59	2	39,59		——	20	29	39,59		39,30		+0,29	3,099
2428	4	6 Delphini β		——		——	5	40,46	20	29	40,48	40,31	39,91	+0,17	+0,57	2,803
2429	5.6	5 Delphini ι		——	5	46,88		——	20	29	46,88		46,51		+0,37	2,866
2430	6	14 Capricorni τ^2		——		——	3	52,36	20	29	52,34		52,20		+0,14	3,363

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2386	5	1 12,86		—		—	103 1 12,86	1 16,06	1 10,14	—3,20	+ 2,72	—10,637
2387	5	45 50,78		—	5	45 49,65	43 45 50,21	45 53,34	45 48,48	—3,13	+ 1,73	10,641
2388	23	3 27,74	7	3 29,47	1	3 30,17	103 3 28,21	3 32,96	3 28,10	—4,75	+ 0,11	10,667
2389		—		—	5	41 45,05	62 41 45,05	41 47,42	41 42,59	—2,37	+ 2,46	10,674
2390		—		—	5	54 40,57	68 54 40,57		54 39,56		+ 1,01	10,684
2391		—	5	56 36,76		—	33 56 36,76	56 37,84	56 39,70	—1,08	— 2,94	10,727
2392	5	50 27,17		—		—	65 50 27,17		50 25,80		+ 1,37	10,733
2393		—	5	38 12,81		—	109 38 12,81	38 10,35	38 6,89	+2,46	+ 5,92	10,738
2394		—	4	47 50,95	3	47 51,22	42 47 51,07	47 54,13	47 55,00	—3,06	— 3,93	10,785
2395		—		—		—	105 18 23,15		18 18,79			10,858
2396		—	4	16 49,92	2	16 51,46	103 16 50,43		16 49,86		+ 0,57	10,859
2397	5	18 23,85	5	18 22,45		—	105 18 23,15	18 19,52	18 13,34	±3,63	+ 4,36	10,876
2398	5	15 49,93		—		—	147 15 49,93		15 46,81		+ 3,12	10,927
2399	5	47 49,50	3	47 51,65		—	12 47 50,31	47 53,52	47 57,12	—3,21	+ 6,81	11,092
2400		—	5	5 4,94		—	66 5 4,94		5 3,71		+ 1,23	11,117
2401	5	16 40,68	20	16 41,22	26	16 41,32	50 16 41,22	16 37,75	16 35,43	+3,47	+ 5,79	11,216
2402	4	20 49,13	1	20 51,46		—	58 20 49,57		20 50,01		— 0,44	11,285
2403	5	45 19,24		—		—	118 45 19,24		45 16 81		+ 2,43	11,322
2404	4	21 42,41	4	21 43,54		—	108 21 42,97	21 46,32	21 41,43	—3,35	+ 1,54	11,435
2405		—	5	58 58,88		—	107 58 58,88		59 0,27		— 1,39	11,445
2406		—		—	5	56 29,72	112 56 29,72		56 28,46		+ 1,26	11,463
2407		—	5	7 56,70		—	109 7 56,70		8 2,98		— 6,28	11,505
2408		—	2	7 56,55	3	7 58,23	109 7 57,56		7 49,66		+ 7,90	11,506
2409	7	26 14,94		—		—	93 26 14,94		26 12,74		+ 2,20	11,550
2410		—	5	39 43,66		—	79 39 43,66		39 34,74		+ 8,92	11,650
2411	6	11 18,92	5	11 19,31	6	11 18,90	60 11 19,03	11 15,28	11 11,63	+3,75	+ 7,40	11,671
2412		—	2	30 17,33	3	30 19,04	115 30 18,36		30 12,38		+ 5,98	11,691
2413		—		—	5	25 15,02	100 25 15,02		25 14,73		+ 0,29	11,715
2414		—	4	17 31,92		—	104 17 31,92		17 31,44		+ 0,48	11,831
2415	5	36 35,51		—		—	41 36 35,51		36 34,87		+ 0,64	11,836
2416	5	15 44,88	1	15 46,96	3	15 44,45	79 15 44,97	15 45,39	15 38,88	—0,42	+ 6,09	11,857
2417		—	5	52 7,51		—	137 52 7,51		52 9,06		— 1,55	11,892
2418		—	5	5 48,17		—	107 5 48,17		5 44,69		+ 3,48	11,915
2419		—	1	32 33,06	4	32 34,90	77 32 34,53		32 32,13		+ 2,40	11,915
2420	2	20 34,24		—		—	41 20 34,24		20 37,61		— 3,37	11,926
2421		—	1	20 31,30	3	20 31,74	157 20 31,63		20 31,72		— 0,09	11,938
2422	5	34 4,97		—		—	27 34 4,97		34 10,85		— 5,88	11,971
2423	5	54 1,38		—		—	75 54 1,38		53 52,12		+ 9,26	12,017
2424		—	5	43 25,44	3	43 25,10	105 43 25,10		43 16,73		+ 8,37	12,049
2425		—	2	7 31,41		—	93 7 31,41		7 28,97		+ 2,44	12,053
2426	5	47 43,28		—		—	156 47 43,28		47 51,88		— 8,60	12,169
2427		—	5	41 11,59		—	91 41 11,59		41 4,89		+ 6,70	12,170
2428		—		—	5	59 2,87	75 59 2,87	59 2,92	58 52,03	+0,05	+ 10,84	12,171
2429		—	5	12 12,45		—	79 12 12,45		12 11,94		+ 0,51	12,179
2430		—		—	5	32 19,25	105 32 19,25		32 8,85		+ 10,40	12,184

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833				Green	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
2431	5.6	27 Velpeculæ *p*		——		——		——	20 29 ——		54,53		——	+2,554
2432	5	15 Capricorni *v*	1	28,90	5	28,78		——	20 30 28,80	28,80	28,37	0,00	+0,43	3,427
2433	5.6	1 Aquarii		——		——		——	20 30 ——		48,18		——	3,070
2434	4.5	8 Delphini *θ*	6	48,33		——		——	20 30 48,33	48,26	47,76	+0,07	+0,57	2,829
2435	5.6	7 Delphini *κ*		——		——	3	58,31	20 30 58,32		57,72		+0,60	2,891
2436	5.6	29 Vulpeculæ *s*		——		——	3	1,41	20 31 1,43		0,62		+0,82	2,671
2437	6.7	Capricorni		——		——	4	5,80	20 31 5,78		5,85		—0,07	3,385
2438	5.6	28 Vulpeculæ		——		——	3	12,87	20 31 12,90		12,31		+0,59	2,608
2439	3.4	9 Delphini *a*	5	50,16	1	50,18	1	50,28	20 31 50,18	50,13	50,05	—3,25	+0,13	2,779
2440	6	Cygni		——	5	4,88		——	20 32 4,90		4,45		+0,45	2,466
2441	7	Capricorni		——	1	6,06	2	6,07	20 33 6,05		5,70		+0,35	3,423
2442	6	10 Delphini		——		——	5	24,32	20 33 24,34		24,04		+0,30	2,807
2443	5	11 Delphini *δ*	4	37,16		——		——	20 35 37,16		36,91		+0,25	2,800
2444	1	50 Cygni *a*	31	42,50	50	42,44		——	20 35 42,48	42,46	41,97	+0,02	+0,51	2,040
2445	4.5	16 Capricorni *ψ*	5	8,33		——		——	20 36 8,33	8,29	8,58	+0,04	—0,25	3,572
2446	6	17 Capricorni		——	6	25,15		——	20 36 25,13		24,77		+0,36	3,490
2447	6	30 Vulpeculæ		——	5	36,60		——	20 37 36,62		36,17		+0,45	2,594
2448	7	Capricorni		——	1	27,96	7	28,08	20 38 28,04		28,05		—0,01	3,515
2449	6	Capricorni		——		——	2	33,00	20 38 32,97		32,82		+0,15	3,512
2450	4.5	2 Aquarii *e*	6	34,89		——		——	20 38 34,89	34,69	34,51	+0,20	+0,38	3,252
2451	4	3 Aquarii *k*	3	52,04		——		——	20 38 52,04	52,16	51,70	—0,12	+0,34	3,170
2452	4	12 Delphini *γ*	6	52,03		——		——	20 38 52,03	51,94	52,72	+0,09	—0,69	2,783
2453	6	Capricorni		——		——	3	18,60	20 39 18,57		18,49		+0,08	3,578
2454	4.5	Microscopii *a*		——	5	27,56		——	20 39 27,54	27,25	26,63	+0,29	+0,91	3,771
2455	3	53 Cygni *e*		——	5	25,06		——	20 39 25,08	24,89	24,52	+0,19	+0,56	2,393
2456	5.6	13 Delphini *λ*	4	52,93	1	53,00		——	20 39 52,95		29,01		——	2,971
2457	6.7	Capricorni		——		——	3	48,32	20 39 48,30		48,21		+0,09	3,414
2458	5	54 Cygni *λ*	4	52,29	1	52,03	5	52,02	20 40 52,15		51,41		+0,74	2,330
2459	5	Cephei *χ*		——	5	10,70		——	20 41 10,75		10,89		—0,14	1,500
2460	6	Capricorni		——		——	3	20,40	20 41 20,37		17,34		——	3,595
2461	6.7	Capricorni *p*		——		——	3	25,91	20 41 25,90		25,24		+0,66	3,306
2462	6.7	Capricorni		——		——	1	29,87	20 41 29,84		29,81		+0,03	3,607
2463	4	Indi *β*		——	5	37,16		——	20 41 37,10		37,20		—0,10	4,768
2464	5.6	18 Capricorni *ω*		——		——	5	46,95	20 41 46,92		47,08		—0,16	3,599
2465	3.4	3 Cephei *η*	1	51,69	3	51,28		——	20 41 51,44	51,74	50,47	—0,30	+0,97	1,220
2466	6	4 Aquarii		——	3	31,15	3	30,94	20 42 31,04		30,97		+0,07	3,179
2467	7	Aquarii		——	2	49,30		——	20 42 49,29		48,51		+0,78	3,285
2468	6	Capricorni *m*		——		——	3	9,36	20 43 9,33		8,81		+0,52	3,527
2469	6	5 Aquarii		——	2	15,55		——	20 43 15,54		15,35		+0,19	3,177
2470	4.5	6 Aquarii *μ*	6	35,47		——	1	35,29	20 43 35,43	35,29	35,07	+0,14	+0,36	3,239
2471	6	Aquarii		——	4	53,97		——	20 43 53,96		53,45		+0,51	3,286
2472	5	Octantis *a*		——		——		——	20 44 ——		3,96		——	7,674
2473	6	31 Vulpeculæ *r*		——	5	56,53		——	20 44 56,55		55,71		+0,84	2,568
2474	6	19 Capricorni	1	17,88	3	17,50	2	17,98	20 45 17,69	17,89	17,43	—0,20	+0,26	3,405
2475	7	Capricorni		——	5	47,75		——	20 46 47,68		47,29		+0,39	3,575

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2431		——		——	5	7 4,89	64 7 4,89		6 58,50		+ 6,39	—12,189
2432		——		——	4	43 23,37	108 43 23,37	43 27,13	43 19,27	—3,76	+ 4,10	12,226
2433		——	3	5 58,08	2	6 1,54	90 5 59,46		5 51,15		+ 8,30	12,250
2434	4	16 8,67	3	16 9,43		——	77 8 8,99	16 10,24	46 6,31	—1,25	+ 2,68	12,250
2435		——		——	5	30 3,77	80 3 3,77		29 56,69		+ 7,08	12,261
2436		——		——	4	23 1,48	69 23 1,48		22 56,97		+ 4,51	12,265
2437		——		——	3	42 55,74	106 42 55,74		42 57,31		— 1,57	12,269
2438		——		——		——	66 28 ——		28 6,85		——	12,279
2439	5	40 35,68	2	40 35,58		——	74 40 35,64	40 32,49	40 25,94	+3,15	+ 9,70	12,322
2440		——	5	15 2,19		——	60 15 2,19		14 57,00		+ 5,19	12,339
2441		——	1	42 14,62	4	42 13,99	108 42 14,12		42 15,73		— 1,61	12,407
2442		——	3	0 34,62	2	0 35,58	76 0 35,01		0 30,66		+ 4,35	12,429
2443	6	31 25,12	1	31 23,27		——	75 31 24,87		31 17,99		+ 6,88	12,581
2444	70	19 1,75	56	19 1,72	40	19 1,61	45 19 1,70	19 0,6	18 57,07	+1,54	+ 4,63	12,588
2445		——		——	5	52 6,55	115 52 6,55	52 5,03	52 1,86	+1,52	+ 4,69	12,615
2446		——	5	7 7,24		——	112 7 7,24		7 4,10		+ 3,14	12,633
2447		——	1	19 35,06		——	65 19 35,06		19 29,98		+ 5,08	12,716
2448		——		——	4	27 25,09	113 27 25,09		27 25,54		— 0,45	12,772
2449		——	1	20 36,16	5	20 38,34	113 20 37,98		20 32,06		+ 5,92	12,778
2450	4	6 22,64	2	6 22,08		——	100 6 22,46	6 19,34	6 10,84	+3,12	+ 11,62	12,780
2451	5	38 15,99		——		——	95 38 15,99	38 15,37	38 9,12	+0,62	+ 6,87	12,800
2452	4	28 33,62	1	28 35,07	2	28 35,26	74 28 34,30	28 34,28	28 28,46	+0,02	+ 5,84	12,802
2453		——		——	5	23 42,09	116 23 42,09		23 38,45		+ 3,64	12,829
2454		——	2	23 41,40	3	23 43,11	124 23 42,43		23 37,88		+ 4,55	12,837
2455	5	39 16,54	5	39 17,50		——	56 32 17,02	39 16,05	39 11,38	0,97	+ 5,64	12,838
2456		——	1	36 16,59	4	36 16,71	84 36 16,69		36 15,83		+ 0,86	12,842
2457		——	5	38 56,19		——	108 38 56,19		38 56,70		— 0,51	12,862
2458	5	7 23,02		——		——	54 7 23,02		7 14,92		+ 8,10	12,935
2459		——	6	1 13,84		——	33 1 13,84		1 6,54		+ 7,30	12,959
2460		——		——		——	117 19 ——		19 7,83		——	12,961
2461		——		——	3	9 39,42	103 9 39,42		9 36,56		+ 2,86	12,971
2462		——		——	5	51 50,51	117 51 50,51		51 50,17		+ 0,34	12,975
2463	4	4 43,19		——		——	149 4 43,19		4 35,34		+ 7,85	12,981
2464		——	3	32 25,56	3	32 26,19	117 32 25,87		32 22,87		+ 3,00	12,994
2465		——	4	48 39,93	1	48 38,92	28 48 39,73	48 42,95	48 42,08	—3,22	— 2,35	13,813*
2466		——	5	14 58,16		——	96 14 58,16		14 51,36		+ 6,80	13,044
2467		——	4	3 46,86		——	102 3 46,89		3 42,88		+ 3,98	13,063
2468		——		——	5	24 25,10	114 24 25,10		24 20,51		+ 4,59	13,085
2469		——		——	5	7 53,29	96 7 53,29		7 47,34		+ 5,92	13,093
2470	5	36 31,88	2	36 31,76		——	99 37 31,90	36 29,82	36 21,83	+2,08	+ 10,07	13,114
2471		——	3	12 11,13		——	102 12 11,13		12 11,99		— 0,86	13,135
2472		——		——		——	167 38 Invis.		38 4,89		——	13,137
2473		——	5	31 36,72		——	63 31 36,72		31 35,95		+ 0,27	13,205
2474		——	1	33 10,12	4	33 12,15	108 33 11,75	33 15,43	33 12,21		— 0,46	13,227
2475		——	5	55 50,26			116 55 50,26		55 47,34		+ 2,92	13,324

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in 1831		Mean A. R. January 1, 1832, from Observations in 1832		Mean A. R. January 1, 1832, from Observations in 1833		Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from Green.	Difference from A. S.	Annual Precession.
			No	s.	No.	s.	No.	s.	h. m. s.	s.	s.	s.	s.	s.
2476	6	Equulei		——	5	15,99		——	20 47 15,98		15,34		+0,64	+3,000
2477	5	57 Cygni	7	18,30		——		——	20 47 18,30		18,02		+0,28	2,115
2478	4.5	32 Vulpeculæ q	5	24,24		——	1	24,16	20 47 24,23	24,16	23,74	+0,07	+0,49	2,552
2479	6	16 Delphini χ		——	2	37,61	3	38,03	20 47 37,87		37,13		+0,74	2,858
2480	6	17 Delphini μ		——		——	7	39,60	20 47 39,62		39,06		+0,56	2,837
2481	6	7 Aquarii		——		——	4	48,87	20 47 48,86		48,94		—0,08	3,249
2482	7	Capricorni		——		——	3	15,96	20 48 15,94		15,61		+0,33	3,365
2483	6	Equulei		——	5	23,78	1	23,93	20 49 23,81		23,43		+0,38	3,007
2484	6	20 Capricorni		——	5	3,07	1	2,82	20 50 3,02		2,91		+0,11	3,421
2485	6	18 Delphini ν		——		——	4	20,59	20 50 20,60		20,06		+0,54	2,891
2486	5.6	1 Equulei ϵ		——		——	2	40,61	20 50 40,62		40,41		+0,21	3,005
2487	6	8 Aquarii z^1		——		——	3	40,43	20 50 40,42		41,13		—0,71	3,308
2488	5.6	33 Vulpeculæ x		——		——	2	45,88	20 50 45,89		45,60		+0,29	2,678
2489	4	58 Cygni ν	6	54,59		——	1	54,78	20 50 54,63	54,88	54,36	—0,25	+0,27	2,229
2490	6	21 Capricorni	1	24,01		——	5	23,96	20 51 23,96		23,82		+0,14	3,390
2491	6	11 Aquarii r		——	2	42,80		——	20 51 42,80		42,74		+0,06	3,160
2492	6	Capricorni n		——	1	46,04	3	46,38	20 51 46,27		45,66		+0,56	3,578
2493	5	Cephei K	2	47,23	2	47,27		——	20 51 47,28					1,605
2494	6	9 Aquarii z^2		——	5	52,47		——	20 51 52,46		52,32		+0,14	3,315
2495	6	2 Equulei λ		——		——	6	55,68	20 53 55,69		55,53		+0,16	+2,957
2496	5	76 Draconis		——	19	15,83		——	20 54 15,93		17,90		—1,97	—3,725
2497	7	22 Capricorni η	3	50,10		——	1	50,14	20 54 50,11	50,15	50,07	+0,07	+0,04	+3,430
2498	6	12 Aquarii		——	5	11,44		——	20 55 11,43		10,89		+0,54	+3,178
2499	5	Cephei h		——	3	55,47	1	55,50	20 55 55,48		46,96			—2,335
2500	6	3 Equulei ζ		——	5	12,85		——	20 56 12,86		12,24		+0,62	+2,987
2501	5.6	23 Capricorni θ		——		——	4	29,86	20 56 29,84	30,03	29,36	+0,19	+0,48	3,378
2502	7	Capricorni		——	5	7,10		——	20 57 7,09		6,62		+0,47	3,433
2503	6	4 Equulei		——	4	7,22	2	7,29	20 57 7,25		6,70		+0,55	2,979
2504	5.6	24 Capricorni A		——		——	3	17,54	20 57 17,51		17,05		+0,46	3,528
2505	4	62 Cygni ξ	1	49,18	1	49,64		——	20 58 49,42	49,43	48,72	0,01	+0,70	2,174
2506	5.6	25 Capricorni χ^1		——		——	3	55,57	20 58 55,55	55,53	55,60	+0,02	—0,05	3,449
2507	6	27 Capricorni χ^3		——		——	5	26,26	20 59 56,24		56,06		+0,18	3,435
2508	5	13 Aquarii ν	2	26,27		——		——	21 0 26,27	26,17	25,64	0,10	+0,63	3,270
2509	5	63 Cygni f^2		——	6	48,90		——	21 0 48,94		48,64		+0,30	2,059
2510	5	5 Equulei γ	4	10,37		——		——	21 2 10,37		10,10		+0,27	2,912
2511	6	3 Piscis Aust		——	5	18,93		——	21 3 18,90		19,02		—0,12	3,497*
2512	3	64 Cygni ζ	3	47,40	5	47,29		——	21 5 47,34	47,42	46,81	—0,08	+0,53	2,546
2513	7	Aquarii		——	5	58,77		——	21 5 58,76		58,34		+0,42	3,194
2514	6	28 Capricorni ϕ		——	4	3,54	4	3,65	21 6 3,58	3,46	3,34	+0,12	+0,24	3,428
2515	5.4	7 Equulei δ	1	17,96	4	18,05		——	21 6 18,04	17,97	17,80	0,07	+0,24	2,917
2516	5	29 Capricorni S		——	5	26,58		——	21 6 26,57	26,60	26,68	—0,03	—0,11	3,329
2517	4.5	8 Equulei a	1	25,63	4	25,42	1	25,58	21 7 25,46	25,59	25,28	0,13	+0,18	2,995
2518	5	4 Piscis Aust	5	44,28		——		——	21 7 44,28		43,43		+0,85	3,658
2519	5	65 Cygni τ	1	5,58	4	5,30		——	21 8 5,38		4,80		+0,58	2,373
2520	6	30 Capricorni r		——	2	31,36	3	31,58	21 8 31,47		31,65		—0,18	3,376

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2476		——	1	6 13,21	4	6 15,24	86 6 14,83		6 12,24		+ 2,59	+13,356
2477	5	14 43,60		——		——	46 14 43,60		14 43,15		+ 0,45	13,361
2478	6	34 34,65		——	2	34 34,91	62 34 34,72	34 38,02	34 31,79	—3,30	+ 2,93	13,366
2479		——	5	4 6,76		——	78 4 6,76		4 6,33		+ 0,43	13,380
2480		——	3	54 52,57	2	54 52,55	76 54 52,56		54 42,90		+ 9,66	13,382
2481		——		——	5	20 13,16	100 20 13,16		20 2,47		+ 10,69	13,392
2482		——		——	4	40 19,19	106 40 19,19		40 18,85		+ 0,34	13,421
2483		——		——	5	26 50,51	86 26 50,51		26 49,10		+ 1,41	13,495
2484		——	4	40 54,16	1	40 54,75	109 40 54,28		40 46,30		+ 7,98	13,536
2485		——	5	48 18,44		——	79 48 18,44		48 12,70		+ 5,74	13,556
2486		——		——	5	20 45,91	86 20 45,94		20 42,62		+ 3,32	13,578
2487		——		——	5	41 54,08	103 41 51,08		41 51,18		+ 2,90	13,578
2488		——	2	19 5,25	3	19 6,14	68 19 5,77		19 5,99		— 0,22	13,584
2489	5	28 34,87	1	28 35,08		——	49 28 34,90	28 34,23	28 28,62	+0,67	+ 6,28	13,594
2490		——		——	5	10 46,70	108 10 46,70		10 46,44		+ 0,26	13,623
2491		——	5	22 30,31		——	95 22 30,31		22 18,87		+ 11,44	13,644
2492		——	1	31 53,19	5	31 53,57	117 31 53,49		31 52 02		+ 1,47	13,646
2493	6	45 22,03		——		——	33 45 22,03		45 21,79		+ 0,24	13,652
2494		——		——	2	10 51,47	104 10 51,47		10 47,90		+ 3,57	13,654
2495		——	5	28 30,06		——	83 28 30,06		28 27,95		+ 2,11	13,785
2496	4	5 49,32	1	5 50,53	6	5 48,77	8 5 49,13		5 55,81		— 6,68	13,823
2497	4	30 49,34	1	30 50,39		——	110 30 49,55	30 48,39	30 45,13	+1,16	+ 4,42	13,842
2498		——	5	28 57,98		——	96 28 57,98		28 53,96		+ 4,02	13,864
2499		——	4	6 0,50	1	6 2,06	10 6 0,81		——		——	13,914
2500		——	3	9 38,52	1	9 39,91	85 9 38,87		9 32,92		+ 5,95	13,929
2501		——		——	5	53 39,26	107 53 39,26	53 43,69	53 42,37	—4,43	— 3,11	13,946
2502		——	5	50 48,62		——	110 50 48,62		50 45,26		+ 3,36	13,985
2503		——	4	41 7,42		——	84 41 7,42		41 59,62		——	13,986
2504		——		——	5	40 19,72	115 40 19,72		40 11,02		+ 8,70	13,996
2505	5	44 19,74	7	44 19,64	5	44 19,85	46 44 19,72	44 20,82	44 19,79	—1,10	— 0,07	14,094
2506		——	5	51 46,64		——	111 51 46,64	51 45,23	51 40,97	+1,41	+ 5,67	14,099
2507		——	5	13 31,30		——	111 13 31,30		13 26,22		+ 5,08	14,161
2508	5	2 48,46		——		——	102 2 48,46	2 49,92	2 43,06	—1,46	+ 5,40	14,192
2509		——	5	1 22,65		——	43 1 22,65		1 28,83		— 6,18	14,218
2510	5	32 28,77		——		——	80 32 28,77		32 23,81		+ 4,96	14,300
2511		——	6	17 53,16		——	118 17 53,16		17 51,92		+ 1,24	14,369
2512	5	27 31,51		——	6	27 32,97	60 27 32,30	27 30,04	27 27,72	+2,26	+ 4,58	14,520
2513		——	5	46 36,54		——	97 46 36,54		46 37,44		— 0,90	14,530
2514		——	4	20 36,06		——	111 20 36,06	20 37,12	20 32,58	—1,06	+ 3,48	14,535
2515		——	7	40 12,69	5	40 12,45	80 40 12,59	40 8,96	40 3,41	+3,63	+ 9,18	14,550
2516		——	5	51 52,31		——	105 51 52,31	51 55,13	51 45,53	—2,82	+ 6,78	14,558
2517	6	26 35,56		——		——	85 26 35,56	26 31,75	26 28,03	+3,81	+ 7,53	14,618
2518	4	52 5,40		——		——	122 52 5,40		51 58,83		+ 6,57	14,634
2519	3	40 2,33	1	40 3,25		——	52 40 2,56		39 58,00		+ 4,56	15,158*
2520		——	2	40 57,48	4	40 58,19	108 40 57,92		40 56,12		+ 1,80	14,683

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green. Catal.	A. S. Catal.	Difference from		Annual Precession.
			No	1831	No.	1832	No.	1833						Green	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2521	6.7	31 Capricorni		——		——	5	51,04	21	8	51,02		51,50		—0,48	+3,566
2522	7	Aquarii		——		——	6	54,71	21	9	54,69		54,39		+0,30	3,342
2523	4 5	67 Cygni σ	7	49,35		——		——	21	10	49,35	49,95	48,26	—0,10	+1,09	2,348
2524	4.5	66 Cygni υ		——	3	0,71		——	21	11	0,71	0,89	59,77	—0,18	+0,94	2,458
2525	6	16 Aquarii s^2		——	4	15,75		——	21	12	15,75		15,16		+0,59	3,151
2526	3	Pavonis γ		——		——	5	27,84	21	12	27,75		26,77		+0,98	5,086
2527	6	9 Equulei η		——		——	5	46,09	21	12	46,10		45,73		+0,37	2,964
2528	5	32 Capricorni ι	4	53,06	2	53,06		——	21	12	53,06	53,01	53,13	+0,05	—0,07	3,350
2529	7	Aquarii		——		——	4	57,40	21	12	57,40		57,28		+0,12	3,226
2530	6	Capricorni		——		——	4	22,14	21	13	22,12		21,59		+0,53	3,452
2531	6	17 Aquarii y^1		——	5	55,58		——	21	13	55,57		55,83		—0,26	3,225
2532	7	Capricorni		——	5	9,66		——	21	14	9,64		9,43		+0,21	3,498
2533	5	Indi γ	3	13,31		——		——	21	14	13,31		13,56		—0,25	4,350
2534	4	1 Pegasi e		——	5	19,17		——	21	14	19,18	19,17	18,91	+0,01	+0,27	2,762
2535	5.6	10 Equulei β		——	5	33,28		——	21	14	33,29		33,01		+0,28	2,974
2536	3	5 Cephei α	3	34,12	5	33,80	9	33,12	21	14	33,66	33,89	33,07	—0,23	+0,59	1,416
2537	6	33 Capricorni		——		——	3	37,40	21	14	37,38		37,09		+0,29	3,417
2538	6	18 Aquarii A	1	0,49		——	4	0,49	21	15	0,48		0,10		+0,38	3,281
2539	5	6 Cephei	7	52,49		——		——	21	15	52,49		51,83		+0,69	1,257
2540	6	19 Aquarii y^2		——		——	3	11,01	21	16	11,00		10,59		+0,41	3,230
2541	6	Pegasi		——		——	1	24,76	21	16	24,79		24,25		+0,54	2,687
2542	6	21 Aquarii		——	5	31,19		——	21	16	31,18		31,11		+0,07	3,133
2543	4	34 Capricorni ζ	6	3,88		——		——	21	17	3,88	3,80	3,40	+0,08	+0,48	3,441
2544	6	Pegasi		——	4	6,67		——	21	17	6,69		6,75		—0,06	2,653
2545	6	35 Capricorni		——	5	42,83		——	21	17	42,81		42,31		+0,50	3,418
2546	5.6	36 Capricorni b		——	5	8,02	3	8,15	21	19	8,05	8,04	7,52	+0,01	+0,53	3,426
2547	7	Capricorni		——	3	33,35	2	33,39	21	20	33,35		33,08		+0,27	3,378
2548	7	Capricorni		——	5	43,10		——	21	20	43,08		42,69		+0,39	3,484
2549	7	Aquarii		——		——	6	27,82	21	21	27,80		27,60		+0,20	3,297
2550	5.6	2 Pegasi f	2	20,63	4	20,54	1	20,33	21	22	20,55		20,57		—0,02	2,710
2551	3	22 Aquarii β	6	42,82	6	42,72	12	42,62	21	22	42,68	42,54	42,47	+0,14	+0,21	3,162
2552	6	Capricorni		——	7	51,91		——	21	22	51,89		51,29		+0,60	3,469
2553	5	71 Cygni g	5	15,32		——		——	21	23	15,32		14,39		+0,93	2,200
2554	6.7	Capricorni		——	5	6,55		——	21	25	6,54		6,02		+0,52	3,280
2555	7	37 Capricorni t^1		——	6	24,46		——	21	25	24,45		24,39		+0,06	3,386
2556	7	38 Capricorni t^2		——	2	27,46	3	27,48	21	25	27,46		27,38		+0,08	3,388
2557	7	Capricorni		——	5	38,82		——	21	25	38,80		38,39		+0,41	3,443
2558	5.6	8 Piscis Aust		——	4	25,81		——	21	26	25,79		25,51		+0,28	3,490
2559	3	8 Cephei β	2	27,66		——	1	26,91	21	26	27,59	27,74	26,69	—0,15	+0,90	0,811
2560	5	39 Capricorni ε	6	40,01		——	3	39,79	21	27	39,94	39,99	39,78	—0,05	+0,16	3,372
2561	5	73 Cygni ρ	5	40,03		——	1	40,07	21	27	40,05	40,09	39,75	—0,04	+0,30	2,248
2562	5	23 Aquarii ξ	5	48,16	6	48,25		——	21	28	48,20	48,12	48,21	+0,08	—0,01	3,192
2563	6	3 Pegasi		——	5	21,57		——	21	29	21,58		20,88		+0,70	2,984
2564	5.6	5 Pegasi		——	4	54,07	2	53,90	21	29	54,03		53,27		+0,76	2,795
2565	5	4 Pegasi T'	1	6,91	4	7,17		——	21	30	7,12		6,73		+0,39	2,997

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2521		——		——	4	9 39,38	108 9 39,38		9 37,00		+ 2,38	+14,703
2522		——	5	52 49,39		——	106 52 49,30		52 47,98		+ 1,32	14,763
2523	5	19 20,82	1	19 22,16		——	51 19 21,06	19 22,07	19 24,65	—1,01	— 3,59	14,820
2524	5	48 17,46		——		——	55 48 17,46	48 17,50	48 14,69	—0,04	+ 2,77	14,831
2525		——	1	16 9,75	4	16 11,25	95 16 10,95		16 0,10		+ 10,85	14,903
2526	3	7 3,34	1	7 4,40	1	7 5,02	156 7 3,87		7 10,90		— 7,03	14,911
2527		——	1	21 7,53	4	21 10,48	83 21 9,89		21 5,76		+ 4,10	14,933
2528		——	5	32 38,61		——	107 32 38,61	32 43,17	32 34,60	—4,56	+ 4,01	14,940
2529		——		——	5	2 13,65	100 2 13,65		——		——	14,944
2530		——		——	3	22 49,20	113 22 49,20		22 49,53		— 0,33	14,967
2531		——		——	3	1 53,38	100 1 53,38		1 44,94		+ 8,44	15,001
2532		——	3	54 56,84		——	115 54 56,84		54 52,36		+ 4,48	15,013
2533	5	22 48,49		——		——	145 22 48,49		22 34,03		+ 14,46	15,016
2534	5	54 37,74		——		——	70 54 37,74	54 36,23	54 33,41	+1,51	+ 4,33	15,024
2535		——		——	5	54 7,96	83 54 7,96		54 3,83		+ 4,13	15,037
2536	5	7 22,39	6	7 24,22	12	7 25,81	28 7 24,65	7 28,14	7 32,04	—3,49	— 7,39	15,040
2537		——	5	33 37,52		——	111 33 37,52		33 35,98		+ 1,54	15,040
2538		——	5	35 35,81		——	103 35 35,81		35 33,38		+ 2,43	15,063
2539	5	50 19,56		——		——	25 50 19,56		50 21,47		+ 1,91	15,116
2540		——	4	27 34,98	2	27 35,03	100 27 35,00		27 27,63		+ 7,37	15,130
2541		——	5	26 35,69		——	66 26 35,69		26 37,70		— 2,01	15,144
2542		——		——	5	16 20,16	94 16 20,16		16 12,91		+ 7,25	15,150
2543	6	7 59,07		——		——	113 7 59,07	8 1,87	7 56,66	—2,80	+ 2,41	15,180
2544		——	5	32 42,39		——	64 32 42,99		32 38,69		+ 3,70	15,185
2545		——	5	55 3,33		——	111 55 3,33		54 59,60		+ 3,73	15,217
2546		——	5	31 58,66		——	112 31 58,66	32 2,74	31 54,66	—4,08	+ 4,00	15,298
2547		——	5	52 38,17		——	109 52 38,17		52 32,29		+ 5,88	15,378
2548		——	5	55 25,22		——	115 55 25,22		55 22,86		+ 2,36	15,387
2549		——	5	1 24,13		——	105 1 24,13		1 16,71		+ 7,42	15,429
2550		——	5	5 37,04		——	67 5 37,04		5 34,48		+ 2,56	15,479
2551	5	18 20,73	2	18 20,00	6	18 20,46	96 18 20,47	18 21,27	18 15,12	—1,25	+ 5,35	15,499
2552		——	5	19 40,35		——	115 19 40,35		19 35,41		+ 4,94	15,506
2553	6	11 48,83		——		——	44 11 48,83		11 50,31		— 1,48	15,530
2554		——	3	13 29,78		——	104 13 29,78		13 30,94		— 1,16	15,630
2555		——	5	49 42,00		——	110 49 42,00		49 36,97		+ 5,03	15,647
2556		——	5	59 31,90		——	110 59 31,90		59 27,38		+ 4,52	15,650
2557		——	5	11 48,49		——	114 11 48,49		11 48,87		— 0,38	15,660
2558		——	5	54 56,42		——	116 54 56,42		54 53,61		+ 2,81	15,702
2559	6	10 37,42		——	10	10 35,92	20 10 36,82	10 32,93	10 38,11	+3,89	— 1,29	15,708
2560	5	12 56,01		——		——	110 12 56,01	12 49,89	12 47,32		+ 8,69	15,770
2561	5	9 0,11		——	2	8 56,41	45 8 59,06	8 52,17	8 53,69	+6,89	+ 5,37	15,771
2562	5	36 7,86		——		——	98 36 7,86	36 12,99	36 6,42	—5,13	+ 1,44	15,831
2563		——	5	7 56,02		——	84 7 56,02		7 48,57		+ 7,45	15,861
2564		——	5	25 58,12		——	71 25 58,12		25 55,25		+ 2,87	15,890
2565	5	59 0,40	1	59 2,34		——	84 59 0,72		58 51,19		+ 9,53	15,902

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833						Green.	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2566	4	40 Capricorni γ	5	46,72		——	5	46,50	21	30	46,68	46,53	46,26	+0,15	+0,42	+3,322
2567	5.6	25 Aquarii d		——	5	1,86		——	21	31	1,86		1,91		—0,05	3,047
2568	6	42 Capricorni d^1		——		——	3	24,42	21	32	24,40		24,21		+0,19	3,280
2569	5	41 Capricorni	5	26,10		——		——	21	32	26,10		26,20		—0,10	3,426
2570	5	43 Capricorni κ	4	15,96	6	16,22		——	21	33	16,11	16,24	15,67	—0,13	+0,44	3,353
2571	5	9 Cephei		——	5	24,45	7	24,14	21	33	24,42		23,75		+0,67	1,610
2572	6	26 Aquarii		——	5	36,06		——	21	33	36,06		36,02		+0,04	3,061
2573	6	Capricorni		——	4	49,23		——	21	33	49,22		48,52		+0,70	3,364
2574	5.6	7 Pegasi T^2		——		——	5	51,19	21	33	51,20		50,77		+0,43	3,000
2575	6	44 Capricorni d^2		——	5	54,08		——	21	33	54,06		53,73		+0,33	3,284
2576	6	45 Capricorni d^3		——	3	50,29	1	50,05	21	34	50,21		49,85		+0,36	3,288
2577	4.5	9 Piscis Aust ι	6	55,39		——		——	21	34	55,39	55,16	54,91	+0,23	+0,48	3,598
2578	2.3	8 Pegasi ϵ	6	56,16		——		——	21	35	56,16	56,15	55,98	+0,01	+0,18	2,942
2579	6	46 Capricorni c^1		——	3	2,66		——	21	36	2,65		1,76		+0,89	3,205
2580	4.5	80 Cygni π^1	3	8,37		——	6	8,08	21	36	8,21	8,31	7,73	—0,10	+0,48	2,118
2581	4.5	9 Pegasi g		——	2	33,42	3	33,53	21	36	33,60	33,56	33,63	+0,04	—0,03	2,835
2582	5	78 Cygni μ		——	6	38,05		——	21	36	38,07		37,56		+0,51	2,652
2583	4	10 Pegasi κ		——	2	2,36	2	2,62	21	37	2,52	2,57	2,37	—0,05	+0,15	2,706
2584	6.7	47 Capricorni c^2		——		——	4	18,34	21	37	18,33		18,01		+0,32	3,206
2585	5.6	48 Capricorni λ		——		——	3	29,16	21	37	29,15	29,40	28,38	—0,25	+0,77	3,236
2586	3.4	49 Capricorni δ	6	45,70	6	45,64	5	45,71	21	37	45,67	45,58	45,42	+0,09	+0,25	3,304
2587	5	10 Piscis Aust θ	5	51,60		——		——	21	37	51,60		51,72		—0,12	3,548
2588	6	12 Pegasi W		——		——	4	20,93	21	38	20,95		20,49		+0,46	2,752
2589	5.6	11 Pegasi		——	5	42,77		——	21	38	42,77		42,01		+0,76	3,042
2590	4.5	11 Cephei τ		——	5	25,68		——	21	39	25,78	25,97	24,08	—0,19	+1,70	0,892
2591	7	Aquarii		——		——	4	13,62	21	40	13,61		13,44		+0,17	3,151
2592	7	Aquarii		——		——	6	35,93	21	40	35,91		35,66		+0,25	3,252
2593	5	81 Cygni π^2	7	35,56		——		——	21	40	35,57	35,92	35,29	—0,35	+0,28	2,204
2594	4.5	10 Cephei σ		——	4	35,94		——	21	40	36,00	36,35	35,06	—0,35	+0,94	1,727
2595	5	78 Draconis $\varkappa$		——	4	58,68		——	21	40	58,81		57,93		+0,88	0,786
2596	6	13 Pegasi		——	5	9,28		——	21	42	9,29		8,84		+0,45	2,844
2597	5	14 Pegasi	6	24,92		——		——	21	42	24,92		25,01		—0,09	2,643
2598	4	Gruis γ	4	44,06		——		——	21	43	44,06		43,25		+0,81	3,657
2599	7	Aquarii	1	59,08	5	59,23		——	21	43	59,19		58,81		+0,38	3,131
2600	5	51 Capricorni μ	6	7,73	1	7,79	9	7,83	21	44	7,79	7,90	7,26	—0,11	+0,53	3,259
2601	6	15 Pegasi		——	5	0,19		——	21	45	0,18		59,51		+0,67	2,673
2602	6.7	Aquarii p		——	5	23,73		——	21	45	23,73		23,58		+0,15	3,134
2663	5.6	16 Pegasi B		——	5	25,51		——	21	45	25,52		25,14		+0,38	2,721
2604	5	Indi δ	4	26,15	2	25,91		——	21	46	26,02		25,06		+0,96	4,151
2605	5	17 Pegasi	2	45,27	3	45,10	2	44,88	21	48	45,09		44,42		+0,67	2,924
2606	6.7	Aquarii		——	6	21,01		——	21	49	21,00		20,48		+0,52	3,359
2607	6.7	Aquarii c		——	5	24,99		——	21	49	24,99		24,19		+0,80	3,147
2608	9	12 Piscis Aust η		——	5	10,26		——	21	51	10,22		10,63		—0,41	3,467
2609	6	18 Pegasi A		——	5	44,40		——	21	51	44,40		44,12		+0,28	2,995
2610	6	28 Aquarii		——	5	29,07		——	21	52	29,07		28,81		+0,26	3,071

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2566	5	24 58,05		——		——	107 24 58,05	25 0,17	24 55,86	—2,12	+ 2,19	—15,936
2567		——	6	30 25,34		——	88 30 25,34		30 23,17		+ 2,17	15,950
2568		——		——		——	104 47 —		47 27,82		——	16,022
2569	5	1 4,59		——		——	114 1 4,59		1 0,43		+ 4,16	16,024
2570	6	37 39,88		——		——	109 37 39,88	37 38,76	37 34,59	+1,12	+ 5,29	16,067
2571	6	40 23,36		——		——	28 40 23,36		40 26,91		— 3,55	16,077
2572		——	4	28 33,69		——	89 28 33,69		28 27,31		+ 6,38	16,085
2573		——	5	23 2,67		——	110 23 2,67		22 57,72		+ 4,95	16,096
2574		——	5	4 57,15		——	85 4 57,15		4 46,66		+ 10,49	16,098
2575		——	4	9 52,68	1	9 52,00	105 9 52,54		9 42,36		+ 10,18	16,100
2576		——	5	30 56,19		——	105 30 56,19		30 49,98		+ 6,21	16,149
2577	4	47 14,07	1	47 16,20		——	123 47 14,49		47 11,07		+ 3,42	16,153
2578	5	53 29,36		——	5	53 30,87	80 53 30,11	53 29,45	53 24,80	+0,66	+ 5,31	16,206
2579		——	5	51 2,13		——	99 51 2,13		50 51,14		+ 10,99	16,211
2580	5	34 30,48		——	1	34 31,07	39 34 30,58	34 28,27	34 27,62	+2,31	+ 2,96	16,218
2581	2	24 55,90	3	24 57,28	2	24 58,36	73 24 57,19	25 1,17	24 56,68	—3,98	+ 0,51	16,239
2582	4	0 46,54		——		——	62 0 46,54		0 45,36		+ 1,18	16,242
2583		——	1	7 27,82	5	7 27,45	65 7 27,51	7 25,73	7 19,88	+1,78	+ 7,63	16,263
2584		——	5	2 51,88		——	100 2 51,88		2 44,10		+ 7,78	16,276
2585		——	5	8 12,23	3	8 10,57	102 8 11,61	8 11,72	8 7,34	—0,11	+ 4,27	16,285
2586	5	53 7,94		——		——	106 53 7,94	53 6,02	53 1,48	+1,92	+ 6,46	16,299
2587		——	2	40 17,56	3	40 14,97	121 40 16,01		40 10,55		+ 5,46	16,304
2588		——	5	49 16,64		——	67 49 16,64		49 15,56		+ 1,08	16,330
2589		——		——	5	5 11,56	88 5 11,56		5 3,36		+ 8,20	16,347
2590	6	27 40,74		——		——	19 27 40,74	27 41,50	27 44,71	—0,76	— 3,97	16,386
2591		——	4	10 43,21		——	96 10 43,21		10 40,88		+ 2,33	16,424
2592		——	5	30 3,07		——	103 30 3,07		30 6,04		— 2,97	16,442
2593	5	27 54,98		——	5	27 55,29	41 27 55,13		27 54,91		+ 0,22	16,444
2594	5	39 11,00		——		——	29 39 11,00	39 9,46	39 11,84	+1,54	— 0,84	16,444
2595	5	26 53,63		——		——	18 26 53,63		26 58,80		— 5,17	16,465
2596		——	4	29 27,89		——	73 29 27,89		29 26,52		+ 1,37	16,520
2597	1	36 21,25	2	36 18,77	4	36 20,07	60 36 20,01		36 14,09		+ 5,95	16,534
2598	5	9 1,10		——		——	128 9 1,10		8 57,43		+ 3,67	16,596
2599		——	6	46 44,31		——	94 46 44,31		46 40,00		+ 4,31	16,610
2600	5	20 18,69		——		——	104 20 18,69	20 18,54	20 12,61	+0,15	+ 6,08	16,617
2601		——	5	59 21,24		——	61 59 21,24		59 20 31		+ 0,93	16,660
2602		——	5	3 42,30		——	95 3 42,30		3 32,38		+ 9,92	16,679
2603		——	5	51 46,34		——	64 51 46,34		51 39,07		+ 7,27	16,681
2604	5	47 9,16		——		——	145 47 9,16		46 57,29		+ 11,87	16,727
2605		——	5	43 1,77		——	78 43 1,77		42 58,20		+ 3,57	16,840
2606		——	5	58 48,56		——	111 58 48,56		58 48,90		— 0,34	16,867
2607		——	5	13 1,97		——	96 13 1,97		12 57,42		+ 4,55	16,871
2608		——	5	15 20,12	2	15 17,24	149 15 19,30		15 15,26		+ 4,04	16,953
2609		——	5	5 1,96		——	84 5 1,96		4 56,05		+ 5,91	16,980
2610		——	4	11 58,53		——	90 11 58,53		11 49,78		+ 8,75	17,015

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833				Green	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
2611	6	19 Pegasi		——	5	48,96		——	21 52 48,96		48,93		+0,03	+2,976
2612	5.6	20 Pegasi		——		——	6	54,57	21 52 54,58		54,02		+0,56	2,914
2613	6	29 Aquarii x		——	4	14,56	5	14,47	21 53 14,51		15,45		—0,94	3,293
2614	5.6	30 Aquarii	2	26,00	4	26,12		——	21 54 26,08		25,83		+0,25	3,158
2615	5.	31 Aquarii o	6	37,41	1	37,33	2	37,31	21 54 37,39	37,37	36,94	+0,02	+0,45	3,104
2616	6	Aquarii		——	6	2,81		——	21 55 2,80		2,76		+0,04	3,431
2617	5.6	21 Pegasi b		——	4	4,64		——	21 55 4,64		4,17		+0,47	2,939
2618	5.6	32 Aquarii		——	3	8,98	4	8,89	21 56 8,93		8,40		+0,53	3,089
2619	3	34 Aquarii a	9	9,20	8	9,26	29	9,24	21 57 9,24	9,27	9,04	—0,03	+0,20	3,082
2620	5	22 Pegasi ν	5	12,39		——		——	21 57 12,39		12,25		+0,14	3,018
2621	7	Aquarii		——	5	16,34		——	21 57 16,34		12,80		+3,54	3,142
2622	4.5	33 Aquarii ι	8	21,47	1	21,55		——	21 57 21,48	21,44	21,48	+0,04	0,00	3,247
2623	2	Gruis a	4	36,56		——		——	21 57 36,56		36,66		—0,10	3,818
2624	6	23 Pegasi		——	4	58,55		——	21 57 58,57		57,94		+0,63	2,705
2625	5	17 Cephei ξ	3	56,20	3	55,80		——	21 58 56,03		54,54		+1,49	1,699
2626	4	24 Pegasi ι	3	11,75	1	11,46		——	21 59 11,68	11,79	11,69	—0,11	—0,01	2,761
2627	5.6	35 Aquarii		——	5	45,75		——	21 59 45,74	45,63	45,37	+0,11	+0,37	3,303
2628	6	25 Pegasi		——	5	57,16		——	21 59 57,17		56,83		+0,34	2,813
2629	7	36 Aquarii		——	3	33,64		——	22 0 33,64		30,40		+3,24	3,174
2630	6	37 Aquarii		——		——	5	33,73	22 1 33,72		33,44		+0,28	3,204
2631	7	Aquarii		——	6	36,81		——	22 1 36,81		36,51		+0,30	3,123
2632	6	38 Aquarii e		——		——	6	38,36	22 1 38,35		38,17		+0,18	3,213
2633	7	Aquarii		——		——	6	42,46	22 1 42,44		41,91		+0,53	3,336
2634	4	26 Pegasi θ	6	43,51		——		——	22 1 43,51	43,51	43,63	0,00	—0,12	3,006
2635	6.7	Aquarii q		——		——	6	47,98	22 1 47,97		47,56		+0,41	3,127
2636	5	27 Pegasi π^1	2	47,33	2	47,35		——	22 1 47,35		47,71		—0,36	2,650
2637	4	29 Pegasi π^2	7	31,99	3	31,90		——	22 2 31,97	31,98	32,27	—0,01	—0,30	2,653
2638	6	28 Pegasi		——	2	34,17	1	34,00	22 2 34,12		33,54		+0,58	2,828
2639	7	Aquarii		——	5	19,24		——	22 3 19,23		17,54*		+1,69	3,205
2640	7	39 Aquarii		——	5	21,94		——	22 3 21,93		21,68		+0,25	3,243
2641	6	Pegasi		——		——		——	22 3 —		44,34		——	2,891
2642	5.6	Piscis Aust. ϕ		——		——	1	17,39	22 4 17,36		16,67		+0,69	3,384
2643	7	40 Aquarii		——		——	3	27,07	22 4 27,06		26,85		+0,21	3,214
2644	6	16 Piscis Aust. λ		——		——	3	46,57	22 4 46,54		45,98		+0,56	3,419
2645	6	41 Aquarii F		——	5	0,79		——	22 5 0,77		0,47		+0,30	3,327
2646	4	21 Cephei ζ		——	4	2,02		——	22 5 2,08	2,25	1,21	—0,17	+0,87	2,064
2647	7	Aquarii		——	4	6,49		——	22 5 6,49		5,55*		+0,94	3,128
2648	5	Gruis μ^1	4	28,06		——		——	22 5 28,06		27,07		+0,99	3,649
2649	5	Gruis μ^2	6	18,64		——		——	22 6 18,64		18,41		+0,23	3,651
2650	5	Lacertæ m		——	5	40,54		——	22 6 40,56		40,25		+0,31	2,606*
2651	3	Tucanæ a		——	5	55,23		——	22 6 55,16		55,95		—0,79	4,216
2652	6	Piscis Aust.		——	3	10,58	1	10,34	22 7 10,50		9,95		+0,55	3,387
2653	6	42 Aquarii		——		——	2	47,96	22 7 47,95		47,00		+0,95	3,221
2654	7	Aquarii		——		——	6	54,43	22 7 54,43		54,09		+0,34	3,095
2655	4.5	43 Aquarii θ	6	57,95		——		——	22 7 57,95	57,77	57,61	+0,18	+0,34	3,163

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from			Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.		
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″		″	″
2611		——	5	32 47,63		——	82 32 47,63		32 42,19		+	5,44	—17,030
2612		——	2	40 50,04	4	40 50,29	77 40 50,21		40 48,05		+	2,16	17,034
2613		——		——	5	46 11,32	107 46 11,32		46 4,27		+	7,05	17,050
2614		——	5	19 50,05		——	97 19 50,05		19 46,65		+	3,40	17,104
2615	5	57 43,42		——		——	92 57 43,42	57 47,37	57 42,84	—3,95	+	0,58	17,112
2616		——	5	37 50,08		——	117 37 50,08		37 51,43		—	1,35	17,132
2617		——	3	25 19,56	2	25 18,83	79 25 19,27		25 11,44		+	7,83	17,133
2618		——	5	42 55,68		——	91 42 55,68		42 49,92		+	5,76	17,182
2619	33	7 55,10	14	7 56,96	16	7 57,33	91 7 56,08	7 57,54	7 54,24	—1,46	+	1,84	17,227
2620		——		——	5	45 35,94	85 45 35,94		45 29,18		+	6,76	17,229
2621		——	2	10 7,17	3	10 7,93	96 10 7,63		——			——	17,229
2622		——		——	5	40 54,00	104 40 54,00	40 51,38	40 41,57	+2,62	+	12,43	17,236
2623	5	46 9,62		——		——	137 46 9,62		46 5,13		+	4,49	17,246
2624		——	3	50 55,18	2	50 56,94	61 50 55,88		50 52,93		+	2,95	17,264
2625	5	11 20,04		——		——	26 11 20,04		11 22,10		—	2,06	17,307
2626	5	28 21,17	3	28 21,70		——	65 28 21,37	28 22,35	28 15,17	—0,98	+	6,20	17,318
2627		——	5	20 17,38		——	109 20 17,38		20 11,44		+	5,94	17,342
2628		——	2	6 40,71	3	6 40,92	69 6 40,84		6 38,58		+	2,26	17,351
2629		——	5	0 27,90		——	99 0 27,90		0 28,74		—	0,84	17,375
2630		——	4	38 39,11		——	101 38 39,11		38 34,55		+	4,56	17,420
2631		——	5	42 53,51		——	94 42 53,51		42 46,64		+	6,87	17,423
2632		——	5	23 14,37		——	102 23 14,37		23 9,11		+	5,26	17,424
2633		——		——	5	3 13,65	112 3 13,65		3 11,50		+	2,15	17,426
2634	5	37 36,05		——	5	37 33,36	84 37 34,70	37 31,06	37 26,45	+3,64	+	8,25	17,428
2635		——		——	5	5 27,21	95 5 27,21		5 20,19		+	7,02	17,431
2636	5	38 33,01		——		——	57 38 33,01		38 44,44		—	11,43	17,432
2637	5	38 33,34		——		——	57 38 33,34	38 35,86	38 31,95	—2,52	+	1,39	17,463
2638		——		——	4	50 43,52	69 50 43,52		50 37,14		+	6,38	17,464
2639		——	4	53 27,15	1	53 29,56	101 53 27,15		——			——	17,495
2640		——		——	5	1 8,87	105 1 8,87		0 58,36		+	10,51	17,498
2641		——	4	47 5,42		——	74 47 5,42		47 1,72		+	3,70	17,514
2642		——	2	0 38,05	5	0 34,03	116 0 38,05		0 32,87		+	5,18	17,537
2643		——		——	5	45 8,64	102 45 8,64		45 2,36		+	6,28	17,544
2644		——	5	35 40,60		——	118 35 40,60		34 57,95			——	17,557
2645		——	3	54 22,19	2	54 21,59	111 54 21,95		54 19,59		+	2,36	17,568
2646	5	37 28,58	1	37 29,07	2	37 29,44	32 37 28,86	37 30,52	37 32,61	—1,66	—	3,75	17,570
2647		——		——	4	16 50,05	95 16 50,05		——			——	17,571
2648	5	10 45,36		——		——	132 10 45,36		10 41,07		+	4,29	17,586
2649	5	27 31,29		——		——	132 27 31,29		27 28,72		+	2,57	17,622
2650	5	6 56,93		——		——	51 6 56,93		6 54,94		+	1,99	17,838*
2651	5	5 30,34		——		——	151 5 30,34		5 22,93		+	7,41	17,647
2652		——	5	43 51,46		——	116 43 51,46		43 47,37		+	4,09	17,658
2653		——	5	39 52,49		——	103 39 52,49		39 52,92		—	0,43	17,683
2654		——	5	25 47,38		——	92 25 47,38		25 46,39		+	0,99	17,688
2655	5	36 55,13		——		——	98 36 55,13	36 59,48	36 56,93	—4,35	—	1,80	17,691

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Precession.
			No.	1831	No.	1832	No.	1833						Green.	A. S.	
				s.		s.		s.	h.	m.	s.	s.	s.	s.	s.	s.
2656	6	Aquarii		——		——	3	0,12	22	8	0,11		59,91		+0,20	+3,177
2657	6.7	44 Aquarii		——		——	6	20,02	22	8	20,01		20,22		—0,21	3,136
2658	5	1 Lacertæ *a*	5	39,47		——		——	22	8	39,47		38,55		+0,92	2,599
2659	4.5	23 Cephei *e*	2	51,67	3	51,61	1	51,37	22	8	51,63	51,54	51,04	+0,09	+0,59	2,137
2660	6	45 Aquarii D		——	6	59,58		——	22	9	59,56		59,07		+0,49	3,224
2661	6	46 Aquarii *p*		——	5	21,37	1	21,36	22	11	21,37	21,35	21,61	+0,02	—0,24	3,161
2662	5	30 Pegasi	6	0,43		——		——	22	12	0,43		0,05		+0,38	3,016
2663	5	47 Aquarii *l*		——	6	20,13		——	22	12	20,12		19,65		+0,47	3,318
2664	4	48 Aquarii *γ*		——	6	58,71		——	22	12	58,71	58,67	58,50	+0,04	+0,21	3,092
2665	4.5	31 Pegasi *d*	7	15,17		——		——	22	13	15,17	15,15	15,03	+0,02	+0,14	2,947
2666	5.6	32 Pegasi C		——	5	34,41		——	22	13	34,42		33,94		+0,48	2,757
2667	5	2 Lacertæ *b*	4	5,92		——	6	5,67	22	14	5,81		5,32		+0,49	2,458
2668	6	49 Aquarii		——	4	8,49		——	22	14	8,48		8,36		+0,12	3,354
2669	7	Aquarii	4	43,13	1	43,57		——	22	14	43,22		42,79		+0,43	3,152
2670	5	Tucanæ *δ*		——		——	4	17,56	22	15	17,38		16,51		+0,87	4,383
2671	6	51 Aquarii G		——	5	21,67		——	22	15	21,67		20,95		+0,72	3,127
2672	6	50 Aquarii		——	1	26,70	2	26,61	22	15	26,62		26,69		—0,07	3,219
2673	7	Aquarii		——		——	5	55,73	22	15	55,73		55,31		+0,42	3,089
2674	5	52 Aquarii *π*	7	41,90		——	5	41,84	22	16	41,88	41,80	41,55	+0,08	+0,33	3,063
2675	6	Piscis Aust.		——		——	4	52,54	22	16	52,51		52,63		—0,12	3,334
2676	4	3 Lacertæ *c*	1	58,03	5	57,65	3	57,55	22	16	57,61	58,10	57,16	—0,49	+0,45	2,341
2677	6.7	53 Aquarii E^1		——	6	26,42		——	22	17	26,41		26,66		—0,25	3,252
2678	6.7	53 Aquarii E^2		——	3	27,10		——	22	17	27,09		27,45		—0,36	3,252
2679	5	4 Lacertæ *d*	4	43,08		——		——	22	17	43,08		42,00		+1,08	2,413
2680	5.6	34 Pegasi H^1		——	4	4,20		——	22	18	4,20		3,86		+0,34	3,033
2681	4	Gruis δ^1	3	11,82		——		——	22	19	11,82		11,64		+0,18	3,625
2682	5.6	35 Pegasi H^2		——	5	21,47		——	22	19	21,47		20,69		+0,78	3,030
2683	5	Gruis δ^2		——	4	41,53	1	41,55	22	19	41,50		40,95		+0,55	3,627
2684	4	55 Aquarii *ζ*	5	10,80		——	1	10,83	22	20	10,83	10,82	10,53	+0,01	+0,30	3,077
2685	6.7	Aquarii		——	4	2,31		——	22	21	2,31		1,29		+1,02	3,205
2686	6	56 Aquarii *f*		——		——	8	16,64	22	21	16,62		16,37		+0,25	3,222
2687	6	37 Pegasi H^3		——		——	5	28,54	22	21	28,53		28,24		+0,29	3,033
2688	5	57 Aquarii *σ*		——	5	45,14	3	54,05	22	21	45,10	45,09	45,10	+0,01	0,00	3,182
2689	4	17 Piscis Aust. *β*	4	56,24		——	2	56,30	22	21	56,23	56,30	56,24	—0,07	—0,01	3,431
2690	6	58 Aquarii		——	5	46,71		——	22	22	46,71		46,49		+0,22	3,183
2691	4.5	27 Cephei *δ*	6	56,74		——		——	22	22	56,74	56,88	55,86	—0,14	+0,88	2,204
2692	4	7 Lacertæ *g*	3	23,09		——	2	22,81	22	24	23,02	23,17	22,88	—0,15	+0,14	2,436
2693	6	39 Pegasi K		——	4	28,91		——	22	24	28,92		28,38		+0,54	2,878
2694	7	Aquarii		——	5	15,46		——	22	25	15,46		15,19		+0,27	3,167
2695	6.7	60 Aquarii H		——	4	23,40	2	23,33	22	25	23,38		22,95		+0,43	3,091
2696	5	59 Aquarii *v*	5	29,60		——		——	22	25	29,60	29,64	29,51	—0,04	+0,09	3,280
2697	7	Aquarii		——	5	0,37	5	0,25	22	26	0,31		0,07		+0,24	3,071
2698	4	62 Aquarii *η*	6	43,46		——		——	22	26	43,46	43,42	43,13	+0,04	+0,33	3,077
2699	7	61 Aquarii L		——	5	45,72		——	22	26	45,71		44,75		+0,96	3,243
2700	5	Octantis *β*		——		——		——	22	28	—		19,87			6,904

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2656		—	5	52 29,70		—	99 52 29,70		52 24,66		+ 5,04	—17,692
2657		—		—	5	13 23,12	96 13 23,12		13 14,67		+ 8,45	17,706
2658	6	5 6,72		—		—	53 5 6,72		5 2,23		+ 4,49	17,719
2659	5	47 28,35	1	47 29,91	5	47 28,13	33 47 28,39	47 32,73	47 33,61	— 4,34	— 5,22	17,728
2660		—	5	8 31,06		—	104 8 31,06		8 28,78		+ 2,28	17,773
2661		—	5	39 37,85		—	98 39 37,85	39 21,52	39 33,27	+16,33	+ 4,58	17,828
2662	5	3 10,27		—		—	85 3 10,27		3 3,19		+ 7,08	17,854
2663	5	26 9,88		—		—	112 26 9,88		24 7,24		+122,64	17,867
2664	4	13 52,85	1	13 51,47		—	92 13 52,57	13 51,26	13 44,87	+ 1,31	+ 7,70	17,893
2665		—	5	38 14,78	4	38 15,14	78 38 14,94	38 18,26	38 12,58	— 3,32	+ 2,36	17,904
2666		—	5	30 45,01		—	62 30 45,01		30 44,65		+ 0,36	17,916
2667	5	18 25,00		—		—	44 18 25,00		18 26,46		— 1,46	17,937
2668		—	5	36 31,96		—	115 36 31,96		36 23,62		+ 8,34	17,938
2669		—	5	2 24,94		—	98 2 24,94		2 26,15		— 1,21	17,960
2670	4	49 0,37		—	2	49 0,85	155 49 0,53		48 46,22		+ 14,31	17,981
2671		—		—	5	41 4,08	95 41 4,08		40 58,38		+ 5,70	17,985
2672		—	4	22 42,05	1	22 42,58	104 22 42,15		22 35,85		+ 6,30	17,989
2673		—		—	5	2 12,72	92 2 12,72		2 11,33		+ 1,39	18,007
2674	6	28 21,88		—			89 28 21,88	28 21,12	28 17,18	+ 0,76	+ 4,70	18,037
2675		—	5	31 59,62		—	114 31 59,62		31 56,52		+ 3,10	18,043
2676	5	36 35,46		—	5	36 36,44	38 36 35,95	36 37,58	36 38,64	— 1,63	— 2,69	18,048
2677		—	4	35 30,15	3	35 32,41	107 35 31,12		35 32,82		— 1,70	18,065
2678		—		—		—	107 —		35 36,13		—	18,066
2679	5	22 21,57		—		—	41 22 21,57		22 24,62		— 3,05	18,076
2680		—	4	27 36,75		—	86 27 36,75		27 33,68		+ 3,07	18,089
2681	4	21 0,79		—	2	21 0,19	164 21 0,59		21 0,71		— 0,12	18,130
2682		—	5	8 38,41		—	86 8 38,41		8 27,65		+ 10,76	18,137
2683	3	36 22,26	2	36 22,57		—	134 36 22,38		36 14,72		+ 7,66	18,149
2684	5	52 37,80		—	5	52 35,45	90 52 36,62	52 38,64	52 34,88	— 2,02	+ 1,74	18,167
2685		—	5	46 17,66		—	103 46 17,66		—		—	18,198
2686		—	5	26 31,86		—	105 26 31,86		26 24,50		+ 7,36	18,208
2687		—	3	25 8,96		—	86 25 8,96		25 2,60		+ 6,36	18,215
2688	5	32 3,71		—		—	101 32 3,71	32 5,90	31 55,22	— 2,19	+ 8,49	18,225
2689	5	12 14,90		—		—	123 12 14,90	12 12,70	12 14,18	+ 2,20	+ 0,72	18,232
2690		—	5	45 47,63		—	101 45 47,63		45 42,01		+ 5,62	18,262
2691	5	26 32,07		—	5	26 33,89	32 26 32,98	26 31,32	26 34,42	+ 1,66	— 1,44	18,269
2692	5	34 46,46	1	34 46,38	5	34 46,19	40 34 46,33	34 45,50	34 45,32	+ 0,83	+ 1,01	18,320
2693	1	37 59,83	4	38 0,34		—	70 38 0,24		37 56,36		+ 3,88	18,323
2694	1	28 22,61	4	28 21,80		—	100 28 21,96		28 19,79		+ 2,17	18,350
2695		—	4	26 9,63		—	92 26 9,63		26 2,75		+ 6,88	18,355
2696	5	33 55,19		—		—	111 33 55,19	33 45,04	33 52,29	+10,15	+ 2,90	18,359
2697		—		—	5	16 2,81	90 16 2,81		15 54,11		+ 8,70	18,377
2698	5	58 52,44		—		—	90 58 52,44	58 52,04	58 44,02	+ 0,40	+ 8,42	18,402
2699		—		—	5	19 27,53	108 19 27,53		19 22,72		+ 4,81	18,402
2700		—		—		—	172 Invisible		14 50,51		—	18,453

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Green's Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
2701	6	63 Aquarii		——	5	3,33	6	3,29	22 29 3,30	3,26	3,27	+0,04	+0,03	+3,114
2702	6.7	64 Aquarii		——	5	25,52		——	22 30 25,52		25,53		−0,01	3,166
2703	6	40 Pegasi Q^1		——	4	45,40		——	22 30 45,41		44,74		+0,67	2,897
2704	7	Aquarii		——	5	16,06		——	22 31 16,06		15,27		+0,79	3,159
2705	4	18 Piscis Aust	6	21,02		——	4	20,94	22 31 20,98	20,98	20,88	0,00	+0,10	3,336
2706	6	41 Pegasi Q^2		——	5	39,17		——	22 31 39,18		38,67		+0,51	2,897
2707	5	31 Cephei	4	36,61		——		——	22 31 36,31		36,74		−0,43	1,447
2708	3	Gruis β	6	35,88		——		——	22 32 35,88		35,85		+0,03	3,617
2709	5	30 Cephei	4	42,82		——		——	22 32 42,82		42,45		+0,37	2,105
2710	3	42 Pegasi ζ	6	5,16		——	5	5,27	22 33 5,21	5,23	4,90	−0,02	+0,31	2,981
2711	5	43 Pegasi o		——		——		——	22 33 ——		52,35		——	2,802
2712	7	65 Aquarii I	1	10,68	4	10,72	1	10,82	22 34 10,73		10,43		+0,30	3,163
2713	7	Aquarii		——	3	15,22	3	15,02	22 34 15,21		14,44		+0,77	3,147
2714	6	67 Aquarii N		——		——	6	27,71	22 34 27,70		27,65		+0,05	3,135
2715	6.7	66 Aquarii g^1		——		——	6	32,30	22 34 32,28		32,09		+0,19	3,243
2716	3	44 Pegasi μ		——	5	8,32	2	8,30	22 35 8,34	8,21	7,87	+0,13	+0,47	2,796
2717	5	Gruis η		——	5	16,30		——	22 35 16,25		15,79		+0,46	3,743
2718	6	20 PiscisAust ψ^1		——	5	18,83		——	22 36 18,82		18,54		+0,28	3,302
2719	6	45 Pegasi		——	5	18,19		——	22 37 18,20		17,65		+0,55	2,910
2720	5	46 Pegasi ξ	6	18,33		——		——	22 38 18,33		17,96		+0,37	2,975
2721	4	Gruis ε	3	22,04		——		——	22 38 22,04		21,02		+1,02	3,670
2722	4.5	47 Pegasi λ	6	26,81		——	2	26,80	22 38 26,81	26,83	27,23	−0,02	−0,42	2,873
2723	6	68 Aquarii g^2		——	5	31,28		——	22 38 31,28		30,92		+0,36	3,242
2724	6	69 Aquarii τ^1	1	46,99	6	47,38	3	47,19	22 38 47,28	48,09	46,85	−0,81	+0,43	3,192
2725	6	70 Aquarii		——	7	39,56	2	39,65	22 39 39,57		39,97		−0,40	3,161
2726	5.6	71 Aquarii τ^2		——	5	41,54	6	41,52	22 40 41,52	41,50	41,48	+0,02	+0,04	3,185
2727	4	48 Pegasi μ	5	54,18		——	4	54,12	22 41 54,16	54,16	53,40	0,00	+0,76	2,872
2728	5	22 Piscis Aust	5	10,22		——		——	22 43 10,22		10,11		+0,11	3,362
2729	4	32 Cephei ι	1	43,48		——		——	22 43 43,48	43,16	42,27	+0,32	+1,21	2,118
2730	4	73 Aquarii λ	7	50,88		——	3	50,82	22 43 50,85	50,78	50,40	+0,07	+0,45	3,133
2731	5.6	49 Pegasi σ		——	5	53,71		——	22 43 53,71		53,03		+0,68	2,999
2732	6	74 Aquarii K		——	5	37,90	2	37,61	22 44 37,82		37,99		+0,73	3,164
2733	6	Pegasi		——	5	46,46		——	22 44 46,48		46,41		+0,07	2,945
2734	5	Cephei ε	1	50,12		——		——	22 44 50,12		——		——	2,297
2735	3	76 Aquarii δ	6	43,73		——	1	43,72	22 45 43,73	43,75	43,53	−0,02	+0,20	3,196
2736	6	78 Aquarii		——	5	49,33		——	22 45 49,33		48,93		+0,40	3,129
2737	6	77 Aquarii		——	5	51,83		——	22 45 51,82		51,21		+0,61	3,199
2738	6	1 Piscium		——	1	23,83	5	23,77	22 46 23,78		23,76		+0,02	3,067
2739	7	Aquarii M^1		——		——	6	28,09	22 46 28,09		27,79		+0,30	3,112
2740	5.6	50 Pegasi ρ	3	46,54		——	6	46,48	22 46 46,50		45,59		+0,91	3,010
2741	1	24 Piscis Aust α	23	21,00	6	21,14	20	21,10	22 48 21,02	20,99	20,96	+0,03	+0,06	3,311
2742	6	51 Pegasi		——	5	13,14		——	22 49 13,15		12,28		+0,87	2,921
2743	6	52 Pegasi		——	6	47,78		——	22 50 47,78		47,59		+0,19	2,992
2744	6.7	2 Piscium x^1		——	6	51,09		——	22 50 51,09		50,66		+0,43	3,068
2745	5	Gruis ζ	5	55,34		——		——	22 50 55,34		54,78		+0,56	3,608

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2701	2	5 36,26	5	5 35,69		——	95 5 35,85	5 32,65	5 25,23	+3,20	+ 10,62	—18,482
2702		——	5	53 57,76		——	100 53 57,76		53 49,85		+ 7,91	18,528
2703		——	5	20 41,27		——	71 20 41,27		20 36,77		+ 4,50	18,539
2704		——	6	14 6,39		——	100 14 6,39		14 4,08		+ 2,31	18,555
2705	5	54 56,83		——		——	117 54 56,83	55 0,35	54 56,96	—3,52	— 0,13	18,558
2706		——	4	11 27,65		——	71 11 27,65		11 20,07		+ 7,58	18,568
2707	5	13 38,47		——		——	17 13 38,47		13 38,49		— 0,02	18,569
2708	5	45 34,54		——		——	137 45 34,54		45 28,32		+ 6,22	18,599
2709	5	17 13,28		——		——	27 17 13,28		17 17,53		— 4,25	18,604
2710	5	2 41,42		——	5	2 41,05	80 2 41,42	2 35,03	2 29,85	+6,39	+ 11,57	18,615
2711	5	34 1,50		——		——	61 34 1,50		33 58,29		+ 3,21	18,641
2712		——	5	58 48,09		——	100 58 48,09		58 42,48		+ 5,61	18,650
2713		——	6	11 17,80		——	99 11 17,80		11 16,95		+ 0,85	18,652
2714		——	4	50 21,31	1	50 21,68	97 50 21,38		50 16,49		+ 4,89	18,659
2715		——		——	5	42 26,04	109 42 26,04		42 23,32		+ 2,72	18,662
2716	3	39 19,48	2	39 20,34	5	39 19,50	60 39 19,66	39 18,94	39 15,40	+0,72	+ 4,26	18,681
2717		——	3	22 53,19	3	22 51,33	144 22 52,26		22 48,55		+ 3,71	18,684
2718		——	5	7 2,68		——	116 7 2,68		6 58,22		+ 4,46	18,718
2719		——	5	30 59,96		——	71 30 59,96		30 51,61		+ 8,35	18,748
2720	5	41 8,06		——		——	78 41 8,06		41 2,79		+ 5,27	18,779
2721	5	11 52,35		——		——	142 11 52,35		11 51,82		+ 0,53	18,780
2722	3	18 56,97	3	18 56,30	5	18 58,00	67 18 57,25	18 58,68	18 49,83	—1,43	+ 7,42	18,784
2723		——	5	29 16,27		——	110 29 16,27		29 11,94		+ 4,33	18,786
2724		——	5	56 26,19		——	104 56 26,19	56 22,90	56 20,01	+3,29	+ 6,18	18,794
2725		——	5	26 23,94		——	101 26 23,94		26 18,77		+ 5,17	18,821
2726		——	4	28 38,37		——	104 28 38,37	28 37,16	28 32,37	+1,21	+ 6,00	18,851
2727	5	16 59,25	2	16 58,88	5	16 59,28	66 16 59,13	17 0,47	16 59,80	—1,34	— 0,67	18,887
2728	3	45 47,08		——		——	123 45 47,08		45 43,23		+ 3,85	18,924
2729	5	40 56,19		——		——	24 40 56,19	40 54,09	40 55,83	+2,10	+ 0,36	18,940
2730	5	28 13,56		——		——	98 28 13,56	28 17,48	28 14,46	—3,92	— 0,90	18,943
2731	3	3 21,90	3	3 22,17		——	81 3 22,03		3 17,51		+ 4,52	18,944
2732		——	5	30 24,04		——	102 30 24,04		30 25,16		— 1,12	18,965
2733		——	5	2 52,60		——	74 2 52,60		2 52,35		+ 0,25	18,970
2734	4	11 41,56		——	1	11 41,83	29 11 41,61		11 47,89		— 6,28	18,971
2735	7	42 43,17		——		——	106 42 43,17	42 43,12	42 37,40	+0,05	+ 5,77	18,996
2736		——	5	5 40,48		——	98 5 40,48		5 40,40		+ 0,08	18,999
2737		——	5	9 39,62		——	107 9 39,62		9 33,23		+ 6,39	19,000
2738	1	49 45,40	4	49 45,66		——	89 49 45,61		49 39,96		+ 5,65	19,015
2739		——	2	52 51,13	4	52 51,43	95 52 51,33		52 50,27		+ 1,06	19,017
2740	1	4 41,56	5	4 41,86		——	82 4 41,81		4 37,35		+ 4,46	19,025
2741	48	30 38,18	20	30 39,07	32	30 40,27	120 30 39,01	30 36,81	30 35,74	+2,20	+ 3,27	19,068
2742		——		——	6	7 51,35	70 7 51,35		7 43,82		+ 7,53	19,091
2743		——	5	10 1,59		——	79 10 1,59		9 58,80		+ 2,79	19,133
2744		——	6	56 0,11		——	89 56 0,11		55 54,05		+ 6,06	19,134
2745	5	39 5,53		——		——	143 39 5,53		39 6,95		— 1,42	19,136

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
2746	6	3 Piscium x^2	4	1,05		——		——	22 52 1,05		0,94		+0,11	+3,073
2747	7	Piscium		——	6	9,48		——	22 52 9,48		8,96		+0,52	3,054
2748	6	81 Aquarii	1	39,63	6	39,74		——	22 52 39,72		39,35		+0,37	3,122
2749	7	Piscium		——	6	10,41		——	22 53 10,41		——		——	3,050
2750	6	82 Aquarii		——	5	49,18		——	22 53 49,18		49,06		+0,12	3,118
2751	4	1 Andromedæ o	6	12,48		——	4	12,41	22 54 12,47	12,47	11,78	0,00	+0,69	2,734
2752	5	4 Piscium β	6	19,84		——		——	22 55 19,84	19,71	19,35	+0,13	+0,49	3,049
2753	2	53 Pegasi β	2	38,26		——		——	22 55 38,26	38,36	38,13	—0,10	+0,13	2,878
2754	6	83 Aquarii h^1		——	5	24,16	3	23,95	22 56 24,08	23,89	23,74	+0,19	+0,34	3,124
2755	2	54 Pegasi α	17	23,89	18	23,93	30	23,94	22 56 23,93	23,94	23,66	—0,01	+0,27	2,975
2756	7	85 Aquarii h^3		——	5	7,95		——	22 57 7,94	7,53	8,05	+0,41	—0,11	3,124
2757	5	Cephei f	2	10,43		——		——	22 57 10,43		——		——	2,243
2758	5	Gruis θ	4	23,47		——		——	22 57 23,47		23,37		+0,10	3,422
2759	5.6	86 Aquarii c^1		——	5	38,70		——	22 57 38,69		38,56		+0,13	3,233
2760	5	55 Pegasi l	2	32,71		——	1	32,80	22 58 32,74	32,54	32,61	+0,20	+0,13	3,015
2761	4.5	56 Pegasi h	6	56,27		——		——	22 58 56,27	56,39	56,24	—0,12	+0,03	2,907
2762	6	Aquarii		——	5	15,09		——	22 59 15,08		14,59		—0,49	3,268
2763	6	5 Piscium A		——	4	4,83	2	4,81	23 0 4,83		4,24		+0,59	3,061
2764	4.5	88 Aquarii c^2	6	28,92		——	2	28,73	23 0 28,87	28,78	28,78	+0,09	+0,09	3,208
2765	5	Gruis ι	3	49,24		——		——	23 0 49,24		45,63		+3,61	3,424
2766	5	89 Aquarii c^3		——	1	55,92		——	23 0 55,91		55,83		+0,08	3,216
2767	5.6	57 Pegasi m		——	5	2,89		——	23 1 2,89		2,86		+0,03	3,022
2768	5	33 Cephei π	2	34,33		——		——	23 2 34,33		34,11		+0,22	1,875
2769	5.6	59 Pegasi p		——	4	15,51		——	23 3 15,51		15,53		—0,02	3,023
2770	6	60 Pegasi	1	40,78	5	40,44		——	23 3 40,51		40,41		+0,10	2,910
2771	5	7 Androm u	6	52,39		——		——	23 4 52,39		51,87		+0,52	2,708
2772	5	90 Aquarii Φ	6	37,20	4	37,42	2	37,15	23 5 37,26	37,29	36,94	—0,03	+0,32	3,106
2773	5.6	91 Aquarii ψ^1		——	4	5,53	6	5,28	23 7 5,17	5,25	5,25	—0,08	—0,08	3,122
2774	4	Tucanæ γ	4	34,51		——		——	23 7 34,51		33,63		+0,88	3,577
2775	6	61 Pegasi		——	5	34,76		——	23 7 34,77		34,23		+0,54	2,911
2776	5.6	92 Aquarii χ		——	5	8,37	5	8,27	23 8 8,31	8,04	8,43	+0,27	—0,12	3,114
2777	4.5	6 Piscium γ	5	27,37	7	27,53		——	23 8 27,46	27,46	27,26	0,00	+0,20	3,108*
2778	5	93 Aquarii ψ^2	1	10,22	6	10,27		——	23 9 10,26	10,27	10,35	—0,01	—0,09	3,121
2779	5	Ap. Sculp γ	6	44,40		——		——	23 9 44,40		44,18		+0,22	3,261
2780	5	8 Androm	3	58,59		——		——	23 9 58,59		57,98		+0,61	2,745
2781	5	95 Aquarii ψ^3	5	13,19	2	13,10	4	13,10	23 10 13,14	13,22	12,93	—0,08	+0,21	3,122
2782	6	94 Aquarii Z		——	5	16,34		——	23 10 16,33		16,09		+0,24	3,142
2783	6	96 Aquarii		——	5	41,35	5	41,31	23 10 41,32	41,28	41,06	+0,04	+0,26	3,098
2784	6	7 Piscium b		——	5	47,13		——	23 11 47,13		46,77		+0,36	3,046
2785	7	Aquarii		——	5	1,16		——	23 12 1,16		1,12		+0,04	3,101
2786	6	Aquarii T		——	5	17,90		——	23 12 17,89		17,75		+0,14	3,215
2787	5	62 Pegasi τ	5	19,99		——		——	23 12 19,90		19,45		+1,54	2,952
2788	6	97 Aquarii	1	50,45	4	50,64		——	23 13 50,60		49,90		+0,70	3,145
2789	5	98 Aquarii b^1	6	8,45		——		——	23 14 8,45		7,86		+0,59	3,170
2790	6	65 Pegasi		——	7	19,23		——	23 14 19,24		19,19		+0,05	2,972

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2746	4	42 53,08	3	42 54,40		——	90 42 53,65		42 47,62		+ 6,03	—19,165
2747		——	4	53 0,39		——	87 53 0,39		52 58,17		+ 2,22	19,168
2748		——	4	57 36,86	2	57 37,86	97 57 37,19		57 31,73		+ 5,46	19,181
2749		——		——	6	22 3,18	87 22 3,18		22 2,96		+ 0,22	19,194
2750		——	5	28 24,22		——	97 28 24,22		28 19,12		+ 5,10	19,210
2751	5	34 28,16	2	34 25,33	5	34 27,41	48 34 27,37	34 30,63	34 31,53	— 3,26	— 4,16	19,220
2752	5	4 59,08		——	4	4 58,49	87 4 58,81	4 58,42	4 52,42	+ 0,39	+ 6,39	19,247
2753	5	49 35,54		——		——	62 49 35,54	49 37,42	49 32,38	— 1,88	+ 3,16	19,255
2754		——	4	35 51,46	3	35 53,73	98 35 51,46	35 56,67	35 49,01	— 5,21	+ 2,45	19,273
2755	37	41 50,14	25	41 50,06	26	41 50,20	75 41 50,14	41 48,33	41 44,79	+ 1,81	+ 5,35	19,273
2756		——	4	50 27,84		——	98 50 27,84	50 30,96	50 21,41	— 3,12	+ 6,43	19,291
2757		——		——	5	41 40,41	23 41 40,41		41 45,37		— 4,96	19,291
2758	4	25 30,79		——		——	134 25 30,79		25 28,48		+ 2,31	19,297
2759		——	5	38 57,52		——	114 38 57,52		38 51,93		+ 5,59	19,303
2760	5	29 47,50		——	5	29 46,32	81 29 46,91	29 47,94	29 40,04	— 1,03	+ 6,87	19,324
2761		——	5	26 13,82	5	26 14,82	65 26 14,32	26 12,53	26 6,90	+ 1,79	+ 7,42	19,333
2762		——	4	43 47,70		——	119 43 47,70		43 44,35		+ 3,35	19,340
2763		——	3	47 1,93		——	88 47 1,93		47 1,90		+ 0,03	19,359
2764	5	4 55,87		——		——	112 4 55,87	4 56,85	4 50,27	— 0,98	+ 5,60	19,368
2765	5	9 15,14		——		——	136 9 15,14		9 17,03		— 1,89	19,374
2766	4	21 56,15	1	21 55,90		——	113 21 56,10		21 54,07		+ 2,03	19,378
2767	1	13 55,00	4	13 55,78		——	82 13 55,63		13 48,71		+ 6,92	19,381
2768	5	31 13,69		——		——	15 31 13,69		31 15,35		— 1,66	19,415
2769	4	11 27,01		——		——	82 11 27,01		11 21,56		+ 5,45	19,429
2770		——	4	3 28,04	1	3 29,50	64 3 28,33		3 24,88		+ 3,45	19,438
2771	4	30 36,25	2	30 35,22	5	30 37,87	41 30 36,80		30 38,11		— 1,31	19,464
2772	5	57 10,83		——		——	96 57 10,83	57 11,63	57 8,39	— 0,80	+ 2,44	19,479
2773		——	4	0 8,97		——	100 0 8,97	0 7,36	0 0,65	+ 1,61	+ 8,32	19,509
2774	5	9 18,35		——		——	149 9 18,35		9 23,90		— 5,55	19,518
2775		——	5	39 57,89		——	62 39 57,89		39 56,17		+ 1,72	19,518
2776		——	4	38 25,14		——	98 38 25,14	38 29,57	38 20,81	— 4,43	+ 4,33	19,530
2777	5	38 1,85	6	38 2,10	5	38 2,41	87 38 2,12	38 3,21	38 1,63	— 1,09	+ 0,49	19,536
2778	4	5 57,00		——		——	100 5 57,00	5 53,67	5 48,46	+ 3,33	+ 8,54	19,550
2779	4	26 42,69		——	1	26 42,90	123 26 42,73		26 43,30		— 0,57	19,560
2780	3	54 5,44	2	54 5,46		——	41 54 5,45		54 7,74		— 2,29	19,565
2781		——	5	31 41,96		——	100 31 41,96	31 40,86	31 34,18	+ 1,10	+ 7,78	19,570
2782		——	5	22 18,99		——	104 22 18,99		22 10,34		+ 8,65	19,571
2783		——	5	2 26,18		——	96 2 26,18	2 27,03	2 25,45	— 0,85	+ 0,73	19,578
2784	3	32 4,56	2	32 6,07		——	85 32 5,16		32 2,76		+ 2,40	19,599
2785		——	5	49 25,50		——	96 49 25,50		49 20,08		+ 5,42	19,603
2786		——	5	54 15,09		——	117 54 15,09		54 13,94		+ 1,15	19,608
2787	5	10 39,51		——		——	67 10 39,51		10 36,43		+ 3,08	19,609
2788		——	4	57 38,01	2	57 36,38	105 57 37,47		57 34,37		+ 3,10	19,635
2789	5	0 59,15		——		——	111 0 59,15		0 57,88		+ 1,27	19,641
2790		——	5	5 29,31		——	70 5 29,31		5 21,72		+ 7,59	19,644

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in No. 1831	Mean A. R. January 1, 1832, from Observations in No. 1832	Mean A. R. January 1, 1832, from Observations in No. 1833	Mean A. R. January 1, 1832	Greenh Catal.	A S. Catal.	Difference from Green.	Difference from A. S.	Annual Precession
			s.	s.	s.	h m. s.	s.	s.	s.	s.	s.
2791	6	66 Pegasi	1 36 51	5 36,61	——	23 14 36,59		36,08		+0,51	+3,015
2792	6.7	Piscium	——	5 54,93	——	23 14 54,93		54,51		+0,42	3,071
2793	6	Aquarii	——	5 12,72	——	23 15 12,71		12,28		+0,43	3,177
2794	5	68 Pegasi υ	6 0,36	——	——	23 17 0,36		59,86		+0,50	2,965
2795	5	99 Aquarii b^2	5 12,80	——	——	23 17 12,80		12,20		+0,60	3,166
2796	5	4 Cassiopeæ d	1 24,25	——	1 24,40	23 17 24,39	24,35	23,67	+0,04	+0,72	2,615
2797	6	Aquarii	——	6 43,74	——	23 17 43,73		43,32		+0,41	3,171
2798	5.6	8 Piscium $\varkappa^1$	——	6 19,45	7 19,31	23 18 19,37	19,41	18,40	—0,04	+0,97	3,067
2799	6	9 Piscium $\varkappa^2$	——	5 38,54	——	23 18 38,54		38,27		+0,27	3,067
2800	6	69 Pegasi	——	5 20,23	——	23 19 20,24		19,41		+0,83	2,962.
2801	5	10 Piscium θ	6 26,99	——	——	23 19 26,99		26,35		+0,64	3,046
2802	5	Cephei s	5 12,99	——	——	23 20 12,99		——		——	2,452
2803	5	70 Pegasi q	1 39,78	——	——	23 20 39,78		39,40		+0,38	3,020
2804	6.7	11 Piscium w^1	——	6 49,67	——	23 20 49,67		49,00		+0,67	3,079
2805	7	Piscium	——	1 51,10	5 51,00	23 20 51,09		50,25		+0,84	3,090
2806	7	12 Piscium w^2	1 53,40	——	6 53,51	23 20 53,49		52,89		+0,60	3,076
2807	5	Cassiopeæ	4 18,30	——	——	23 22 18,30		17,71		+0,59	2,722
2808	7	13 Piscium w^3	3 20,47	1 20,67	——	23 23 20,51		19,83		+0,68	3,076
2809	7	Aquarii	——	——	7 29,68	23 23 29,67		29,81		—0,14	3,115
2810	5	101 Aquarii b^4	6 28,72	——	——	23 24 28,72		28,61		+0,11	3,151
2811	5	71 Pegasi y	5 4,01	——	——	23 25 4,01		3,65		+0,36	2,988
2812	6.7	14 Piscium w^4	——	4 30,83	——	23 25 30,83		30,70		+0,13	3,076
2813	5	Phœnicis ι	5 0,70	——	3 0,74	23 26 0,69		0,88		—0,19	3,256
2814	6.7	Aquarii	——	5 52,15	——	23 26 52,15		51,67		+0,48	3,097
2815	7	15 Piscium	——	5 53,48	——	23 26 53,48		52,76		+0,72	3,067
2816	6	Aquarii	——	3 19,82	3 19,51	23 27 19,64		19,47		+0,17	3,169
2817	6	16 Piscium	——	——	6 49,08	23 27 49,08		49,11		—0,03	3,064
2818	6	Aquarii	——	4 56,84	——	23 28 56,83		56,38		+0,45	3,113
2819	4 5	16 Androm λ	4 22,00	——	5 21,79	23 29 21,92	21,97	21,28	—0,05	+0,64	2,886
2820	6	75 Pegasi s	——	5 28,45	——	23 29 28,46		28,05		+0,41	3,012
2821	5	Phœnicis θ	7 25,19	——	——	23 30 25,19		24,57		+0,62	3,257
2822	5	102 Aquarii ω^1	6 4,07	——	——	23 31 4,07		3,73		+0,34	3,114
2823	4.5	17 Piscium ι	6 18,65	4 18,75	4 18,77	23 31 18,72	18,73	18,67	—0,01	+0,05	3,054
2824	5	19 Androm χ	3 9,32	——	——	23 32 9,32		8,97		+0,35	2,914
2825	6	Aquarii	——	5 27,19	——	23 32 27,19		26,73		+0,46	3,104
2826	3	35 Cephei γ	——	7 30,61	——	23 32 30,86	31,30	29,58	—0,44	+1,28	2,390
2827	5	103 Aquarii A^1	——	2 51,51	——	23 32 51,50		51,00		+0,50	3,123
2828	5	104 Aquarii A^2	——	——	——	23 33 ——		1,83		——	3,122
2829	5	18 Piscium λ	1 28,62	——	6 28,71	23 33 28,69	28,67	28,48	+0,02	+0,21	3,066
2830	5.6	105 Aquarii ω^2	——	4 0,54	——	23 34 0,53		0,55		—0,02	3,110
2831	6	76 Pegasi	——	2 12,77	4 12,72	23 34 12,75		11,59		+1,16	3,027
2832	5.6	77 Pegasi O	——	5 49,68	——	23 34 49 68		49,30		+0,38	3,044
2833	5	106 Aquarii A^3	6 29,07	——	——	23 35 29,07		28,77		+0,30	3,118
2834	5	78 Pegasi i	6 33 30	——	——	23 35 33,30		33,48		—0,18	2,991
2835	7	Piscium	4 14,83	3 14,84	——	23 36 14,84		14,24		+0,60	3,053

No.	Mean N. P. D. reduced to January 1, 18.2 from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2791	3	36 17,32		——	3	36 15,42	78 36 16,37		36 18,57		— 2,20	—19,649
2792		——	4	37 48,92	1	37 49,56	90 37 49,01		37 46,82		+ 2,19	19,654
2793		——		——	6	41 28,05	112 41 28,05		41 27,07		+ 0,98	19,659
2794	5	31 7,75		——		——	67 31 7,75		31 8,93		— 1,18	19,689
2795	5	33 40,52		——		——	111 33 40,52		33 42,49		— 1,97	19,692
2796	5	38 15,26		——	6	38 16,22	28 38 15,78	38 20,15	38 22,18	—4,37	— 6,40	19,696
2797	2	39 46,07	3	39 45,69		——	112 39 45,82		39 49,12		— 3,30	19,701
2798		——	7	39 49,98	5	39 49,19	89 39 49,65	39 47,05	39 42,03	+2,60	+ 7,62	19,710
2799		——	4	48 0,08		——	89 48 0,08		47 50,43		+ 9,65	19,715
2800		——		——	5	45 17,46	65 45 17,46		45 14,96		+ 2,50	19,726
2801	5	32 18,43		——		——	84 32 18,43		32 35,27		— 16,84	19,728
2802	5	33 51,98		——		——	20 33 51,98		33 50,34		+ 1,64	19,740
2803	5	9 53,77		——		——	78 9 53,77		9 49,07		+ 4,70	19,746
2804	3	42 51,98	3	42 53,43		——	92 42 52,70		42 50,26		+ 2,44	19,749
2805		——	1	26 49,40	4	26 51,23	95 26 50,86		26 40,13		+ 10,73	19,749
2806		——		——	5	57 34,19	91 57 34,19		57 31,44		+ 2,75	19,750
2807	5	22 34,54		——		——	32 22 34,54		22 36,79		— 2,25	19,771
2808		——	1	0 46,83	4	0 46,48	92 0 46,55		0 42,42		+ 4,13	19,785
2809		——	2	28 11,62	3	28 10,77	102 28 11,11		28 11,09		+ 0,02	19,787
2810	5	50 31,07		——		——	111 50 31,07		50 28,18		+ 2,89	19,801
2811	6	25 35,03		——		——	68 25 35,03		25 28,08		+ 6,95	19,809
2812	1	10 28,51		——	3	10 28,26	92 10 28,32		10 22,70		+ 5,62	19,815
2813	5	32 30,59		——		——	133 32 30,59		32 28,00		+ 2,59	19,821
2814		——		——	3	23 33,84	98 23 33,84		23 36,63		— 2,79	19,832
2815		——	3	36 53,24	2	36 52,53	89 36 52,96		36 49,32		+ 3,64	19,832
2816		——		——	5	48 14,84	117 48 14,84		48 10,44		+ 4,40	19,838
2817		——	5	49 42,70		——	88 49 42,70		49 37,97		+ 4,73	19,844
2818		——		——	5	59 24,41	103 59 24,41		59 25,39		— 0,95	19,858
2819	6	27 6,93	1	27 6,18	4	27 7,40	44 27 7,06	27 3,76	27 0,13	+3,30	+ 6,93	19,863
2820		——	5	31 43,25		——	72 31 43,25		31 49,04		— 5,79	19,864
2821	5	34 7,18		——		——	137 34 7,18		34 8,03		— 0,85	19,875
2822	5	9 5,08		——		——	105 9 5,08		8 54,54		+ 10,54	19,882
2823	5	17 4,03	1	17 1,80	5	17 3,80	85 17 3,73	17 1,80	16 59,69	+1,93	+ 4,04	19,335*
2824	5	35 42,28		——		——	46 35 42,28		35 44,72		— 2,44	19,894
2825		——	5	36 38,94		——	102 36 38,94		36 40,61		— 1,67	19,897
2826	4	18 15,84	1	18 14,43		——	13 18 15,56	18 17,35	18 20,20	—1,79	— 4,64	19,898
2827	4	57 16,50	2	57 14,23		——	108 57 15,74		57 11,09		+ 4,65	19,901
2828	1	44 45,21	4	44 48,10		——	108 44 47,77		44 46,54		+ 1,23	19,903
2829	3	8 36,73	1	8 35,89	1	8 36,91	89 8 36,52	8 38,54	8 37,92	—2,02	— 1,40	19,907
2830		——	5	28 25,20		——	105 28 25,20		28 18,52		+ 6,68	19,913
2831		——	5	35 48,10		——	74 35 48,10		35 42,87		+ 5,23	19,915
2832		——	4	36 4,02		——	80 36 4,02		35 57,96		+ 6,06	19,921
2833	5	12 31,61		——		——	109 12 31,61		12 26,85		+ 4,76	19,927
2834	5	34 3,11		——		——	61 34 3,11		34 6,02		— 2,91	19,928
2835	5	44 19,45		——		——	83 44 19,45		44 21,98		— 2,53	19,934

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Greenh Catal.	A. S. Catal.	Difference from		Annual Precession
			No.	1831	No.	1832	No.	1833				Green.	A. S.	
				s.		s.		s.	h. m. s.	s.	s.	s.	s.	s.
2836	6	107 Aquarii A^4		——	5	17,19		——	23 37 17,18		16,67		+0,51	+3,115
2837	5	20 Androm ψ	6	43,99		——		——	23 37 43,99		44,83		—0,84	2,936
2838	6	19 Piscium m		——	5	48,74	8	48,65	23 37 48,69	48,69	48 57	0,00	+0,12	3,062
2839	6	Aquarii Y		——	6	36,83	1	36,85	23 38 36,83		36 58		+0,25	3,097
2840	5	5 Cassiopeæ τ	4	52,97		——		——	23 38 52,97		52,24		+0,73	2,873
2841	5.6	20 Piscium n	1	18,42	5	18,46		——	23 39 18,45		17,93		+0,52	3,076
2842	6.7	Aquarii		——	5	54,50		——	23 39 54,50		54,34		+0,16	3,083
2843	5	Draconis	3	55,86		——		——	23 39 55,86		55,59		+0,27	2,793
2844	5	Ap. Sculp δ	6	10,01		——		——	23 40 10,01		9,56		+0,45	3,133
2845	6	21 Piscium	7	51,57		——		——	23 40 51,57		51,42		+0,15	3,068
2846	6	79 Pegasi		——	3	9,94	3	9,97	23 41 9,98		9,21		—0,77	3,010
2847	6	Aquarii		——	3	34,65		——	23 41 34,65		33,83		+0,82	3,089
2848	6	Aquarii	1	53,25	5	53,33		——	23 41 53,31		52,56		+0,75	3,097
2849	5	Octantis γ^1		——		——		——	23 41 ——		56,11		——	3,926
2850	6	108 Aquarii A^5		——	5	40,51		——	23 42 40,50		39,85		+0,65	3,105
2851	7	80 Pegasi		——	5	47,27		——	23 42 47,27		47,34		—0,07	3,053
2852	6	22 Piscium		——	5	22.12		——	23 43 22,12		21,74		+0,38	3,065
2853	6	Aquarii		——		——	6	51,92	23 43 51,90		51,90		0,00	3,094
2854	6	23 Piscium		——		——	5	52.29	23 43 52,31		52,16		+0,15	3,032
2855	6	81 Pegasi Φ		——		——	4	56,95	23 43 56,97		56,41		+0,56	3,087
2856	6	82 Pegasi		——	2	3,56	4	3,50	23 44 3,53		3,28		+0,25	3,052
2857	6.7	24 Piscium	1	17,87		——	6	17,94	23 44 17,92		17,73		+0,19	3,075
2858	6.7	25 Piscium		——	5	28,78		——	23 44 28,78		28,07		+0,71	3,066
2859	6.7	Piscium	4	10,96	2	10,96		——	23 46 10,96		10,88		+0,08	3,069
2860	6	26 Piscium	6	32,44	5	32,44		——	23 46 32,44		32,13		+0,31	3,060
2861	5	Octantis γ^2		——		——		——	23 48 ——		1,78		——	3,651
2862	5	Tucanæ η	6	42,75		——		——	23 48 42,75		41,64		+1,11	3,212
2863	5.6	84 Pegasi ψ	1	12,59	4	12,78		——	23 49 12,73		12,61		+0,12	3,040
2864	5	27 Piscium p	5	4,40	5	4,52	4	4,37	23 50 4,43	4,30	3,71	+0,13	+0,72	3,073
2865	4.5	28 Piscium α	5	41,40	7	41,54	1	41,46	23 50 41,46	41,29	41,34	+0,17	+0,12	3,062
2866	7	Piscium		——	4	3,60		——	23 51 3,60		2,88		+0,72	3,121*
2867	5	Tucanæ ε	3	6,88		——		——	23 51 6,88		7,08		—0,20	3,189
2868	5	Cassiopeæ		——		——		——	23 53 ——		——		——	2,996
2869	5	29 Piscium q	4	12,98		——	3	12,94	23 53 12,97	13,02	12,11	—0,05	+0,86	3,071
2870	4.5	30 Piscium r	6	20,73	1	20,65	3	20,59	23 53 20,65	20,74	20,27	—0,09	+0,38	3,073
2871	6	85 Pegasi		——	5	24,61		——	23 53 24,60		23,86		+0,74	3,109*
2872	6	31 Piscium e^1		——	5	48,31		——	23 53 48,31		47,83		+0,48	3,063
2873	6	32 Piscium e^2		——	5	54,81		——	23 53 54,87		54,32		+0,55	3,063
2874	4	2 Ceti g	6	7,78	6	7,85		——	23 55 7,81	7,77	7,72	+0,04	+0,09	3,078
2875	6	3 Ceti p		——	6	54,01		——	23 55 54,01		53,96		+0,05	3,073
2876	6.7	Piscium		——	6	27,35		——	23 56 27,35		26,91		+0,44	3,069
2877	5	33 Piscium	7	44,20		——	4	44,17	23 56 44,19	44,23	43,89	—0,04	+0,30	3,070
2878	6	86 Pegasi k	1	4,78	4	5,09		——	23 57 5,03		5,08		—0,05	3,064
2879	7	4 Ceti	2	7,84	1	7,83		——	23 59 7,84		7,51		+0,33	3,068
2880	7	5 Ceti	4	35,85	4	36,05		——	23 59 35,95		35,77		+0,18	3,068
2881	1	21 Androm α	29	43,24	23	43,15	15	43,13	23 59 43,19	43,20	42,72	—0,01	+0,47	+3,067

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green-wich Cata-logue.	A. S. Cata-logue.	Difference from		Annual Precession
	No	1831	No.	1832	No.	1833				Green.	A. S. C.	
		′ ″		′ ″		′ ″	° ′ ″	′ ″	′ ″	″	″	″
2836		——	5	36 46,35		——	109 36 46,35		36 42,32		+ 4,03	—19,943
2837	6	30 45,81		——		——	44 30 45,81		30 43,02		+ 2,79	19,947
2838		——	4	26 38,78		——	87 26 38,78	26 41,51	26 35,36	—2,73	+ 3,42	19,948
2839		——	5	50 19,53		——	102 50 19,53		50 20,10		— 0,57	19,955
2840	5	17 0,52		——		——	32 17 0,52		17 1,63		— 1,11	19,957
2841		——	5	41 39,03		——	93 41 39,03		41 36,52		+ 2,51	19,960
2842	2	18 44,22	4	18 43,14		——	97 18 43,50		18 44,26		— 0,76	19,965
2843	5	7 34,06		——		——	23 7 34,06		7 37,98		— 3,92	19,965
2844	6	3 29,40	1	3 28,34		——	119 3 29,25		3 28,21		+ 1,04	19,967
2845	5	51 26,34		——		——	89 51 26,34		51 21,85		+ 4,49	19,972
2846		——	4	5 32,13	1	5 32,37	62 5 32,18		5 27,30		+ 4,88	19,974
2847		——		——	5	54 42,62	100 54 42,62		54 43,76		— 1,14	19,977
2848		——	5	20 5,68		——	105 20 5,68		19 58,98		+ 6,70	19,979
2849		——		——		——	172 Invisible.		57 3,16		——	19,979
2850		——	5	50 38,98		——	109 50 38,98		50 33,54		+ 5,44	19,985
2851		——	5	37 2,75		——	81 37 2,75		36 59,36		+ 3,39	19,985
2852	3	0 8,99	2	0 9,95		——	88 0 9,38		0 10,55		— 1,17	19,989
2853		——	3	11 10,73	3	11 11,03	105 11 10,88		11 6,15		+ 4,73	19,992
2854	1	15 45,65	2	15 44,91	2	15 45,42	69 15 45,26		15 37,75		+ 7,51	19,992
2855	1	48 47,37		——	4	48 43,63	71 48 43,38		48 43,11		+ 0,27	19,993
2856		——		——	5	59 17,54	79 59 17,54		59 12,45		+ 5,09	19,993
2857		——		——	5	5 15,27	94 5 15,27		5 6,82		+ 8,45	19,995
2858		——		——	5	50 33,71	88 50 33,71		50 31,42		+ 2,29	19,996
2859		——	5	49 30,42		——	90 49 30,42		49 29,00		+ 1,42	20,006
2860	1	51 46,25	4	51 44,59		——	83 51 44,92		51 44,20		+ 0,72	20,007
2861		——		——		——	173 Invisible		6 4,85		——	20,015
2862	1	13 41,11		——		——	155 13 41,11		14 25,84		— 44,73	20,018
2863	3	47 30,76	2	47 32,01	1	47 32,67	65 47 31,49		47 27,32		+ 4,17	20,020
2864	5	29 16,79		——		——	94 29 16,79	29 16,55	29 12,30	+0,24	+ 4,49	20,023
2865	5	3 57,54	4	3 58,57	3	3 58,38	84 3 58,10	3 59,82	3 58,77	—1,72	— 0,67	20,026
2866		——	5	49 33,05		——	96 49 33,05		49 30,48		+ 2,57	29,027
2867		——	5	30 38,94		——	156 30 38,94		30 31,77		+ 7,17	20,027
2868	5	42 47,29		——		——	29 42 47,29		42 45,48		+ 1,81	20,033
2869	5	57 43,40		——		——	93 57 43,40	57 45,89	57 40,69	—2,49	+ 2,71	20,034
2870	5	56 51,37		——		——	96 56 51,37	56 52,03	56 48,81	—0,66	+ 2,56	20,034
2871	4	48 22,25	1	48 22,54		——	63 48 22,31		48 34,67		— 12,36	18,884
2872		——	6	58 41,93		——	81 58 41,93		58 39,45		+ 2,48	20,035
2873		——	5	26 51,12		——	82 26 51,12		26 53,29		— 2,17	20,035
2874	5	16 15,56		——		——	108 16 15,56	16 15,52	16 9,97	+0,04	+ 5,59	20,038
2875		——	5	26 39,05		——	101 26 39,05		26 35,61		+ 3,44	20,039
2876	2	26 9,06	1	26 10,54		——	91 26 9,55		26 6,71		+ 2,84	20,040
2877	5	38 48,34		——		——	96 38 48,34	38 51,70	38 50,05	—3,36	— 1,71	20,040
2878		——	3	32 18,04	1	32 18,70	77 32 18,20		32 19,03		— 0,83	20,041
2879		——	6	28 59,43		——	93 28 59,43		28 57,29		— 2,14	20,042
2880	5	22 55,16		——		——	93 22 55,16		22 52,14		— 3,02	20,043
2881	50	50 13,12	42	60 13,46	9	50 12,85	61 50 13,24	50 14,37	50 13,26	—1,12	— 0,02	20,043

No.	*Column.*				
60	Mean A. R.	for	1″,21	read	1″,26
101	A. R. 1832	—	4″,62	——	7″,72
	Mean A. R.	—	4″,62	——	7″,72
196	A. R. 1831 / Mean A. R.	—	24″,11	——	23″,61
281	Mean A. R.	—	2*h.* 3*m.*	——	2*h.* 32*m.*
465	Mean A. R.	—	3*h.*	——	4*h.*
772	N.P.D. 1831	—	43″,73	——	43″,11
	Mean N.P.D.	—	41″,74	——	41″,46
813	N.P.D. 1831	—	4″,08	——	4″,70
	N.P.D. 1832	—	0″,58	——	1″,97
	Mean N.P.D.	—	2″,33	——	3″,33
989	N.P.D. 1832 / Mean N.P.D.	—	55′	——	53′
1110	N.P.D. 1832	—	33″,15	——	33″,75
	Mean N.P.D.	—	33″,61	——	33″,91
1211	N.P.D. 1831	—	34′ 58″,25	——	35′ 7″,25
	Mean N.P.D.	—	34′ 58″,25	——	35′ 7″ 85
1333	N.P.D. 1832	—	8″,58	——	9″,14
	Mean N.P.D.	—	10″,16	——	10″,53
1741	A. R. 1833 / Mean A. R.	The *seconds* in these columns to be transferred to No. 1744.			
1752	Mean N.P.D.	for	106° 41′	read	106° 40′
1819	A. R. 1833	—	41″,34	——	41″,92
	Mean A. R.	—	41″.36	——	41″ 94
1964	Mean A. R.	—	26″,89	——	26″,63
2205	Green. A. R.	—	36″,18	——	36″,78
2424	A. R.	—	29*h.*	——	20*h.*
2439	Diff. of A. R.	—	— 3″,25	——	— 0″,25
2536	N.P.D. 1831	—	22″,39	——	23″.48
	N.P.D. 1833	—	25″,81	——	25″ 05
	Mean N.P.D.	—	24″,65	——	24″,49
2594	A. R. 1832	—	35″,94	——	36″,22
	Mean A. R.	—	36″ 00	——	36″.28
2642	N.P.D. 1832	—	38″,05	——	36″,74
	Mean N.P.D.	—	38″,05	——	34″,81

N. B.—In addition to the above the differences should be corrected.

REMARKS UPON THE CATALOGUE OF FIXED STARS.

The casualties to which I have already alluded at the early part of this work as affecting the observations made with the Transit Instrument in 1832 and 1833, renders it desirable that a comparison should be made between the observations of these years and the observations of 1831, in which no uncertainty of any kind exists; for this purpose putting α α^{I} &c. and β β^{I} &c. to represent the errors in seconds of space of Azimuth and Collimation respectively, and selecting from the catalogue those Stars situated near the Pole (as affording large co-efficients) which have been observed in each of the three years, we have as follows.

From observations made in 1831 1832 1833.

Names.	N.P.D.	A.R.	Mean Place.	+ A + C	Mean Place.	+ A + C	Mean Place.	+ A + C
	°	*h. m.*	*s.*		*s.*		*s.*	
Draconis	11.27	12 4	13.20	+ ,31 α + ,50 β	13,69	+ ,31 α^{I} + ,50 β^{I}	12,45	+ ,31 α^{II} + ,50 β^{II}
7 Urs. Min. β	15,10	14 51	17.18	+ ,22 + ,38	17 28	+ ,22 + ,38	15,99	+ ,22 + ,38
Urs. Maj.	20, 3	10 30	54 76	+ ,16 + ,29	55,06	+ ,16 + ,29	54,60	+ ,16 + ,29
Cassiopei	23,21	2 15	20,50	+ ,14 + ,25	20,43	+ ,14 + ,25	19 82	+ ,14 + ,25
11 Draconis α	24,49	13 59	50,64	+ ,13 + ,24	50,97	+ ,13 + ,24	50,19	+ ,13 + ,24
50 Ursæ. Maj. α	27,21	10 53	17.49	+ ,11 + ,22	17,40	+ ,11 + ,22	17.31	+ ,11 + ,22
5 Cephei α	28, 8	21 14	34,12	+ ,10 + ,21	33,88	+ ,10 + ,21	33,27	+ ,10 + ,21
29 Ursæ. Maj. ν	30 11	9 38	58 46	+ ,09 + ,20	58,40	+ ,09 + ,20	58,27	+ ,09 + ,20
18 Cassiopeæ α	34,23	0 31	1,42	+ ,08 + ,18	1,28	+ ,08 + ,18	1.18	+ ,08 + ,18
64 Ursæ. Maj. γ	35 22	11 44	57 42	+ ,07 + ,17	57 50	+ ,07 + ,17	57,54	+ ,07 + ,17
33 Draconis γ	38 29	17 52	42 42	+ ,06 + ,16	42.58	+ ,06 + ,16	42,15	+ ,06 + ,16
33 Persei α	40,44	3 12	22 05	+ ,06 + ,15	22.14	+ ,06 + ,15	21,94	+ ,06 + ,15
51 Persei μ	42, 1	4 2	35,48	+ ,05 + ,15	35 52	+ ,05 + ,15	35 22	+ ,05 + ,15
13 Aurigæ α	44. 1	4 4	17,46	+ ,05 + ,14	17.48	+ ,05 + ,14	17.22	+ ,05 + ,14
26 Persei β	49,41	2 57	16,03	+ ,04 + ,13	15,89	+ ,04 + ,13	16.15	+ ,04 + ,13

Similarly we have the following observations made near to the South Horizon in the years 1831 1832 and 1833.

Names.	N.P.D	A.R.	Mean Place.	+ A + C	Mean Place.	+ A + C	Mean Place.	+ A + C
	°	*h. m.*	*s.*		*s.*		*s.*	
Columbæ α	124,10	5 33	34 14	— ,06 α + ,12 β	34,10	— ,06 α^{I} + ,12 β^{I}	34,23	— ,06 α^{II} + ,12 β^{II}
Columbæ γ	125,18	5 51	34,86	— ,06 + ,12	34 98	— ,06 + ,12	35.02	— ,06 + ,12
Eridani ϵ	133,43	3 13	13,19	— ,07 + ,14	13.29	— ,07 + ,14	13 67	— ,07 + ,14
Arg. in pup. L^{1}	134 53	7 8	12.17	— ,08 + ,14	11,82	— ,08 + ,14	11 86	— ,08 + ,14
Argus ϕ	143,45	9 50	58,78	— ,10 + ,17	58.87	— ,10 + ,17	58,50	— ,10 + ,17
Argus δ	144. 5	8 40	3 76	— ,10 + ,17	3 93	— ,10 + ,17	4 21	— ,10 + ,17
Eridani α	148. 5	1 31	27,19	— ,12 + ,18	27,27	— ,12 + ,18	27 29	— ,12 + ,18
Argus ι	148,33	9 12	35 64	— ,12 + ,18	36,11	— ,12 + ,18	35 90	— ,12 + ,18
Arg. in Car. η	150,29	10 11	29.23	— ,13 + ,20	28 88	— ,13 + ,20	29 32	— ,13 + ,20
Crucis α^{2}	152, 9	12 17	18.98	— ,14 + ,21	18,69	— ,14 + ,21	19,16	— ,14 + ,21
Arg. in Car. ν	154,11	9 23	5,21	— ,15 + ,23	5.22	— ,15 + ,23	5 57	— ,15 + ,23
Argus ν	154,17	9 42	54 01	— ,15 + ,23	54 25	— ,15 + ,23	54,21	— ,15 + ,23
Hydri ξ	158,59	2 36	2 03	— ,18 + ,30	2 49	— ,18 + ,30	2,24	— ,18 + ,30
Argus β	159, 4	9 11	19 45	— ,18 + ,30	19,73	— ,11 + ,30	19,57	— ,18 + ,30

Taking the mean of each set we obtain the following Equations.

$$30'',57 + ,11\ \alpha + ,22\ \beta = 30'',63 + ,11\ \alpha^{I} + ,22\ \beta^{I} = 30'',22 + ,11\ \alpha^{II} + ,22\ \beta^{II}$$
$$24\ ,90 - ,12\ \alpha + ,19\ \beta = 24\ ,97 + ,12\ \alpha^{I} + ,19\ \beta^{I} = 25\ ,05 - ,12\ \alpha^{II} + ,19\ \beta^{II}$$

by subtraction we have

$$5'',67 + ,23\ \alpha + ,03\ \beta = 5''66 + ,23\ \alpha^{I} + ,03\ \beta^{I} = 5'',17 + 23\ \alpha^{II} + ,03\ \beta^{II}$$

shewing that the Azimuth correction for 1832 differs insensibly from that of 1831 and may consequently be assumed $= 0$, and that the observations for 1833 stand in need of the correction $2'',22$ of space on this account. Now the observations constituting the above result for 1833, were made between the 20th January and the end of October, during which period we employed the formulæ $\frac{96'',20 - N - S}{2}$ for computing the Azimuthal error, and traced *as well as circumstances would then permit* (see pages 41 and 42) that an alteration took place in the situation of the meridian marks in the same direction and to nearly the same amount with the correction now found on or about the 12th November; our present result however fixes the date of the alteration in question at a much earlier period; probably at the commencement of the year.

By adding the above Equations together we determine:

$$55'',47 - ,01\ \alpha + ,41\ \beta = 55'',60 - ,01\ \alpha^{I} + ,41\ \beta^{I} = 55'',27 - ,01\ \alpha^{II} + ,41\ \beta^{II}$$

from whence (assuming as above that 1831 is devoid of error i. e. that $\alpha = \beta = 0$) we determine that the observations for 1832 require a correction for Collimation to the amount $- 0'',32$ and that those for 1833 require a correction $+ 0'',50$ or it appears on the whole, *that the observations of* 1832 *require no correction of consequence to reduce them to the tenor of those of* 1831, *and that those of* 1833 *up to November* 12, *require correction as follows.*

North Polar Distance.	Correction.	North Polar Distance.	Correction.
°	″	°	″
20	+ ,414	95	+ ,022
25	+ ,328	100	+ ,013
30	+ ,265	105	+ ,004
35	+ ,224	110	— ,007
40	+ ,187	115	— ,017
45	+ ,161	120	— ,028
50	+ ,139	125	— ,042
55	+ ,120	130	— ,055
60	+ ,104	135	— ,069
65	+ ,089	140	— ,087
70	+ ,077	145	— ,108
75	+ ,064	150	— ,133
80	+ ,054	155	— ,168
85	+ ,043	160	— ,220
90	+ ,033		

The above corrections not having been taken into account in obtaining the column "mean," our "difference from Greenwich" and "difference from A. S." exhibits the *true* difference for those cases where the Star has been observed in 1831 and 1832 only; as the Catalogue now stands out of the 687 comparisons between the Madras and Greenwich Catalogues there are

280 cases which do not exceed ,05*s*. of time.
or 470 —— —— —— —— ,10*s*. ——
or 615 —— —— —— —— ,20*s*. ——
and 72 —— —— exceed ,20*s*. ——

Admitting the accuracy of the above corrections, (for it must I think be readily conceded that some such sort of correction is necessary) and neglecting those which are below ,05*s*. except in the case of the principal Stars; the following corrections of the column "Mean A. R. January 1, 1832" become necessary.

No.	Correction.	No.	Correction.	No.	Correction.	No.	Correction.	No.	Correction.
46	— 0,15	459	+ 0,09	637	+ 0,10	776	+ 0,10	976	+ 0,09
89	+ 0,09	462	+ 0.06	638	+ 0,07	779	+ 0,09	979	+ 0 09
113	+ 0,08	479	+ 0 06	640	+ 0,07	780	+ 0,05	992	+ 0.09
153	+ 0,07	481	+ 0.06	649	+ 0,07	783	+ 0,05	998	+ 0.07
157	+ 0,07	484	+ 0 09	651	+ 0 06	785	+ 0,05	999	+ 0.11
180	+ 0 06	497	+ 0,11	654	+ 0,06	790	+ 0,03	1023	+ 0,06
211	+ 0 08	505	+ 0,0 3	655	+ 0,07	796	+ 0 09	1025	+ 0,09
220	+ 0 05	509	+ 0 06	656	+ 0.06	799	+ 0 08	1028	+ 0 06
242	+ 0,08	511	+ 0,05	657	+ 0,0 9	800	+ 0,10	1032	— 0 05
247	+ 0,18	512	+ 0 06	670	+ 0,06	801	+ 0,08	1054	+ 0.08
255	+ 0,09	516	+ 0.06	671	+ 0.08	808	+ 0,08	1055	+ 0 05
259	+ 0,07	519	+ 0,06	674	+ 0 09	809	+ 0,07	1058	+ 0,08
262	+ 0,06	522	+ 0,10	678	+ 0,08	811	+ 0 07	1082	+ 0 05
270	+ 0.06	531	+ 0 06	683	+ 0,07	817	+ 0 10	1099	+ 0,06
271	+ 0 05	536	+ 0.06	687	+ 0.10	828	+ 0 07	1102	— 0 05
277	+ 0.09	537	+ 0.06	688	+ 0 09	843	+ 0 06	1103	+ 0 05
283	+ 0,08	538	— 0 05	701	+ 0,06	851	+ 0 06	1120	— 0 09
301	+ 0.07	552	+ 0,24	704	+ 0.06	859	+ 0,07	1124	— 0 07
317	+ 0 08	572	+ 0,09	706	+ 0 07	861	+ 0,09	1131	+ 0 06
342	+ 0,07	573	+ 0 06	707	+ 0,07	864	+ 0,09	1133	— 0 12
344	+ 0,08	577	+ 0,13	708	+ 0,06	870	+ 0,09	1135	+ 1,24
346	+ 0 08	580	+ 0 05	716	+ 0,06	871	+ 0,09	1137	— 0.06
358	+ 0,09	581	+ 0,05	717	+ 0.10	889	+ 0,09	1144	— 0,06
362	+ 0.08	582	+ 0 05	720	+ 0,06	891	+ 0,10	1146	+ 0,09
369	+ 0 09	594	+ 0 09	721	+ 0 08	900	+ 0 06	1148	+ 0 22
374	+ 0 05	595	+ 0 08	723	+ 0.06	912	+ 0,05	1156	— 0 08
376	+ 0,09	596	+ 0,10	727	+ 0 11	919	+ 0 06	1158	+ 0,09
401	+ 0.08	601	+ 0 05	731	+ 0 08	922	+ 0,10	1175	+ 0 04
413	+ 0,09	602	+ 0,08	734	+ 0.04	926	+ 0.06	1179	+ 0 08
419	+ 0,09	609	+ 0,06	743	+ 0.10	927	+ 0,06	1181	+ 0.10
423	+ 0 09	611	+ 0 09	745	+ 0 08	931	+ 0,11	1182	— 0 07
430	+ 0 06	620	+ 0 06	754	+ 0 09	933	+ 0 05	1196	— 0 05
435	+ 0 08	623	+ 0 08	755	+ 0,07	939	+ 0,06	1209	+ 0,03
439	— 0 06	624	+ 0 07	766	+ 0,09	940	+ 0,07	1221	+ 0 06
451	+ 0.09	629	+ 0 07	768	+ 0 08	946	+ 0,09	1225	— 0 05
453	+ 0 10	634	+ 0 10	769	+ 0 08	948	+ 0 06	1229	— 0 06
457	+ 0,08	636	+ 0,10	771	+ 0,05	951	+ 0,07	1230	+ 0,07

No.	Correction.	No.	Correction.	No.	Correction.	No.	Correction.	No.	Correction.
1236	+ 0 05	1575	+ 0 12	1870	+ 0 10	2091	+ 0,10	2342	+ 0,07
1240	+ 0 07	1599	+ 0,07	1876	+ 0,17	2094	+ 0 08	2347	+ 0,07
1255	+ 0,13	1607	+ 0.17	1879	+ 0,11	2111	+ 0,18	2353	+ 0 07
1266	+ 0,22	1616	+ 0 06	1880	+ 0,12	2113	+ 0 06	2358	+ 0,05
1273	— 0 06	1621	+ 0 07	1887	+ 0,13	2116	+ 0,10	2359	+ 0.09
1281	— 0,06	1625	+ 0.04	1895	+ 0,62	2117	+ 0,08	2362	+ 0,06
1285	+ 0,08	1628	+ 0,07	1899	+ 0 05	2121	+ 0 08	2370	+ 0 08
1291	+ 0,05	1639	+ 0,11	1903	+ 0,40	2134	+ 0 08	2377	+ 0 09
1294	— 0.05	1645	+ 0,08	1906	+ 0,21	2143	+ 0,13	2379	+ 0.09
1301	+ 0,11	1655	— 0 15	1918	+ 0,33	2146	+ 0,08	2380	+ 0.09
1305	+ 0,14	1658	+ 0,06	1926	+ 0,17	2156	+ 0,06	2381	+ 0,05
1329	+ 0,06	1664	+ 0,05	1927	+ 0,07	2158	— 0,12	2385	+ 0 08
1330	+ 0.06	1685	+ 0,10	1932	+ 0 05	2171	+ 0,13	2392	+ 0,09
1331	+ 0,06	1700	+ 0,34	1950	+ 0,33	2172	+ 0.23	2394	+ 0,17
1335	— 0 05	1708	+ 0,05	1955	+ 0,05	2173	+ 0,07	2398	— 0,11
1350	+ 0,23	1714	+ 0 06	1963	+ 0,13	2177	+ 0,05	2410	+ 0,05
1360	— 0 06	1722	— 0.16	1964	+ 1,33	2182	+ 0,08	2419	+ 0 05
1370	+ 0 09	1734	— 0,05	1976	+ 0 09	2192	+ 0,26	2420	+ 0,18
1379	+ 0,12	1735	— 0,07	1980	+ 0 05	2194	+ 0,06	2421	— 0,17
1404	+ 0,85	1745	+ 0 06	1982	+ 0.11	2200	+ 0,05	2428	+ 0.05
1406	+ 0 06	1748	+ 0,08	1987	+ 0,09	2209	+ 0,45	2435	+ 0,05
1407	+ 0,08	1765	+ 0,07	1996	+ 0 09	2219	+ 0,05	2436	+ 0,08
1421	+ 0.06	1766	— 0,06	1999	+ 0,06	2231	+ 0,08	2438	+ 0 08
1426	— 0 11	1767	+ 0 06	2001	— 0,07	2242	+ 0,13	2442	+ 0,06
1435	+ 0,06	1770	+ 0 05	2012	— 0 06	2259	+ 0,09	2458	+ 0,06
1436	+ 0 09	1775	+ 0,05	2013	+ 0,10	2263	+ 0,06	2480	+ 0 06
1440	+ 0 05	1783	+ 0,06	2014	+ 0,06	2267	+ 0,10	2485	+ 0 05
1447	+ 0,09	1784	+ 0,06	2015	+ 0,05	2279	+ 0,09	2488	+ 0,08
1451	+ 0 05	1786	+ 0,08	2016	+ 0 14	2283	+ 0,08	2499	+ 0 96
1455	+ 0 06	1791	+ 0 03	2026	+ 0 09	2292	+ 0,08	2526	— 0,17
1461	+ 0,08	1793	+ 0 07	2030	+ 0,39	2296	+ 0,10	2536	+ 0.16
1464	+ 0,05	1801	+ 0 07	2034	+ 0,07	2298	+ 0,07	2541	+ 0 09
1501	— 0,09	1809	+ 0,08	2038	+ 0,09	2303	+ 0,08	2559	+ 0,14
1504	+ 0,08	1819	+ 0,06	2041	+ 0,39	2307	+ 0,10	2571	+ 0.15
1505	+ 0.09	1822	+ 0 06	2053	+ 0 09	2314	+ 0,09	2588	+ 0,08
1507	+ 0,10	1830	+ 0.07	2059	+ 0,23	2315	+ 0 09	2612	+ 0,06
1508	+ 0,10	1832	+ 0 08	2060	+ 0,10	2324	+ 0,05	2667	+ 0.10
1512	— 0 06	1842	+ 0.26	2068	+ 0,07	2325	— 0 25	2751	+ 0 05
1520	+ 0,05	1843	+ 0,05	2071	+ 0,06	2330	+ 0 05	2755	+ 0,02
1534	+ 0,07	1844	+ 0 05	2081	+ 0,08	2332	+ 0 08	2854	+ 0,08
1541	+ 0,05	1867	+ 0,08	2087	+ 0,08	2341	+ 0 05		

When the corrections in the foregoing table are applied there appears to be
475 cases which do not exceed ,10*s.* of time.
or 627 —— —— —— —— ,20*s.* ——
and 60 —— —— exceed ,20*s.* ——

Among the latter class the following are those most deserving of notice.

			s.		*h.*	*m.*	*s.*
No. 115	*a* Urs. Min.	—	0,95	Madras Mean A. R.	1	0	2.19
				Greenwich — —	1	0	3 14
				Cambridge — —	1	0	1,80
No. 340	* Persei	+	0,65	Madras Results of 1832 and 1833 agree.			
No. 371	* Camelopar.	+	0,47	Madras Result differs only ,05*s.* from the Greenwich Observations of 1831.			
No. 400	* Persei	—	0,37	Madras Result differs only ,02*s.* from the Greenwich Observations of 1831.			

				s.	
No. 552	*	Camelopar.	+	0,54	This must be examined.
No. 603	β	Eridani	—	0,29	The Greenwich Result is no doubt about $\frac{1}{4}$ second too large.
No. 832	28	Geminorum	+	0,26	Must be examined.
No. 874		Camelopardi	—	0,28	The situation of this Star (being only 7° 18′ from the Pole) fully accounts for the difference.
No. 1106	κ	Cancri	+	0,36	Must be examined.
No. 1386	π	Virginis	+	0,66	The Greenwich place must be wrong.
No. 1417	c	Virginis	+	0,95	Madras Result 49″.42s. Greenwich — 48 47s. Cambridge — 49,22s. Greenwich is about 1s. wrong.
No. 1451	k	Comæ Ber.	—	0,23	The Greenwich Observations for 1831 differ + ,08s. from the Madras Result.
No. 1545	l^2	Virginis	—	0,27	The Greenwich Result is probably too large.
No. 1639	θ	Bootis	+	0,36	The Greenwich Result is probably too small.
No. 1754	γ^2	Urs. Min.	—	0,78	Only one observation: the Greenwich Observations for 1831 differ 0,29s. from the Madras Result.
No. 1832	π	Serpentis	—	0,39	The Greenwich Observations of 1831 differ 0,18s. from the Madras Result.
No. 1915	ϵ	Scorpii	—	0,46	The Greenwich Observations of 1831 differ 0,19s. from the Madras Result.
No. 1964	ϵ	Urs. Min.	+	0,56	One observation.
No. 2032	D	Ophiuchi	+	0,43	The Greenwich Observations of 1831 differ 0,11s. and the Cambridge ,08s. from the Madras Result.
No. 2043	γ	Telescopii	+	0 29	The Greenwich place is probably too small.
No. 2090	S^a	Ophiuchi	—	0,29	The Greenwich place is probably too large.
No. 2148	δ	Urs. Min.	—	0,67	Madras Result 29 54s. Greenwich — 30 21s: Cambridge — 29,31s.
No. 2274	π	Draconis	—	0,47	Requires examination.
No. 2321	δ	Cygni	—	0,33	Do. Do.
No. 2371	ρ	Draconis	—	0,45	The Greenwich Observations for 1831 differ only 0,10s. from the Madras Result.
No. 2454	a	Microscopii	+	0 29	Requires examination.
No. 2465	η	Cephei	—	0,30	The Greenwich Observations for 1831 differ only 0,10s. from the Madras Result.
No. 2489	ν	Cygni	—	0 25	The Greenwich place is probably too large.
No. 2593	π^2	Cygni	—	0 35	Requires examination.
No. 2676	c	Lacertæ	—	0 49	The Greenwich place must be too large.
No. 2724	τ^1	Aquarii	—	0,81	The Greenwich place is 1s. wrong.
No. 2756	h^3	Aquarii	+	0 41	The Greenwich place is probably too small.
No. 2776	χ	Aquarii	+	0 27	The Greenwich Observations of 1831 differ 0,15s. from the Madras Result.
No. 2826	η	Cephei	—	0,44	Requires to be examined.

In the above comparison between the Madras and Greenwich Catalogues there now remain only 18 cases in which the difference exceeds a quarter of a second of time, the greater part of which will I apprehend be found to arise from *error* of result and *not* from the *uncertainty* attendant upon observation.

On looking over the column "Difference from A. S. C." a mere glance is sufficient to shew that the two Catalogues are not reckoned from the same Equinoctial point, a correction of about 0,30*s.* being necessary to reduce either Catalogue to the other; independant of this, it must be recollected that in the construction of the Society's Catalogue, proper motion was allowed only in 57 cases where it had been determined from "accurate observations" "to amount to 0,50*s.* in space (or 0,33*s.* in *time*)" since however accurate observations adapted to the purpose have not in many cases been available, it necessarily follows that the column of difference is further encumbered with the accumulated effect of proper motion, and consequently the discordances large or small cannot be looked upon as throwing any sort of doubt upon the accuracy of the Madras Results.

The discordancies most deserving attention are as follows.

					s.	
No.	21	ξ	Tucanæ	+	2,97	About one years precession.
No.	55		Ceti	+	3,57	Do. Do.
No.	79		Piscium	+	2,03	Do. Do.
No.	91		Cephei	+	5,62	N. P. D. 4° 39′.
No.	147	δ	Cassiopeæ	—	1,42	Greenwich differs 0,19*s.* from the Madras Result.
No.	256	κ	Eridani	+	1,96	Observed in two separate years at Madras.
No.	268		Ceti	+	4,13	Do. Do.
No.	296	ξ	Hydri	+	1,64	Observed in three separate years at Madras.
No.	340		Persei	+	4,78	Madras confirmed by Greenwich.
No.	346		Arietis	+	4,36	Observed in two separate years.
No.	439	γ	Hydri	+	1,38	Do. Do.
No.	442	34	Tauri	+	1,55	Do. Do.
No.	455	γ	Reticuli	+	2,11	Do. Do.
No.	500	θ	Reticuli	+	1,83	Madras Result re-examined.
No.	570	ι	Aurigæ	+	3,25	Do. Do.
No.	610	ζ	Doradus	—	1,26	Madras confirmed by Greenwich.
No.	658		Leporis	+	1,35	Observed in two separate years.
No.	661	χ	Aurigæ	+	8,21	Greenwich differs 0,14*s.* from the Madras Result.
No.	721		Tauri	+	1,50	Madras Results re-examined.
No.	741	ϵ	Doradus	+	1,54	
No.	805		This place has apparently been put in by mistake, the observations no doubt pertain to No. 799.			
No.	835	q	Camelopardi	—	1,96	Greenwich differs 0,08*s.* from the Madras Result.
No.	996	16	Argus	+	1,38	Madras Results re-examined.
No.	1132		Leonis	—	1,68	
No.	1135		Draconis	—	1,54	Observed in two separate years.
No.	1137	ι	Argus	+	1,87*	Observed in three separate years.
No.	1156	n	Arg. in Car.	—	3,11	Do. Do.
No.	1160	N	Arg. in Vel.	+	1,50	Observed in two separate years.
No.	1182	l	Arg. in Car.	+	1,53	Do. Do.
No.	1183	s	Sextantis	+	1,91	Madras Result re-examined.
No.	1208	f	Sextantis	+	1,49	Observed in three separate years.
No.	1229	q	Arg. in Car.	+	1,54	Madras Result re-examined.

				s.	
No. 1234	T	Arg. in Vel.	+	1,80	Observed in two separate years.
No. 1240	G	Leonis Min.	+	1,48	Madras confirmed by Greenwich.
No. 1247	I	Arg. in Car.	+	2,15	Madras Result re-examined.
No. 1270	34	Sextantis	+	1,70	Observed in two separate years.
No. 1273	0^1	Argus	+	1,97	Do. Do.
No. 1276	0^2	Argus	+	1,87	Do. Do.
No. 1360	λ	Centauri	+	1,82	Do. Do.
No. 1406	δ	Crucis	+	2,29	Do. Do.
No. 1421	ϵ	Crucis	+	1,73	Do. Do.
No. 1426	α^1	Crucis	+	1,68	Do. Do.
No. 1427	α^2	Crucis	+	1,37	Observed in three separate years.
No. 1493	r	Comæ Ber.	+	1,61	Observed in two separate years.
No. 1651		Libræ	—	1,55	
No. 1653	α^1	Centauri	—	6,22	Madras Results re-examined.
No. 1654	α^2	Centauri †	—	6,35	
No. 1655	α	Circini	—	2,12	
No. 1714	i	Bootis	+	1,44	Greenwich differs 0,47*s*.
No. 1964	ϵ	Uræ Min.	+	3 96	Do. Do. 0,56*s*.
No. 1992	δ	Aræ	—	1,59	Observed in two separate years.
No. 2067	a	Sagittarii ‡	+	1,50	Re-examined.
No. 2148	δ	Uræ Min.	+	7,33	Cambridge confirms Madras.
No. 2158	0	Pavonis	—	3,97	Observed in two separate years.
No. 2166	λ	Pavonis	—	1,56	
No. 2278	e	Aquilæ	+	1,38	Madras Results re-examined.
No. 2325	ϵ	Pavonis	+	1,16	
No. 2378	R	Sagittarii	+	2,99	
No. 2399	κ	Cephei	+	3,29	Greenwich differs 0,17*s*.
No. 2421	v	Pavonis	+	1,56	Madras Result re-examined.
No. 2493	76	Draconis	—	1,97	Greenwich Observations for 1831 differ + 0 98*s*.
No. 2499	h	Cephei	+	9 48	Do. Do. Do. Do. — 0,26*s*.
No. 2590	τ	Cephei	+	1,70	Do. Do. Do. Do. — 0,19*s*.
No. 2621		Aquarii	+	3,54**	Madras Result re-examined.

		Madras.	Nautical Almanac 1834.	Society's Catalogue.
		h. m. s.	*s.*	*s.*
*	Mean A. R.	9 12 35,75	38,19	33,88
†	January 1, 1832.	14 28 16,25	18,58	22,60

‡ On the 27th of August 1834, I observed the interval between the transit of this Star and of No. 2078 with the Mural Circle Telescope.

	m.	*s.*
To be	2	18,46
Interval in the Madras Catalogue	2	18,65
—— —— Ast. Soc. Catalogue	2	19,65

** On the 16 h of October 1834, I observed the interval between the transit of this Star and of No. 2630 with the Mural Circle Telescope.

	m.	*s.*
To be	4	17,60
Interval in the Madras Catalogue	4	17,30
—— —— Ast. Soc. Catalogue	4	20,64

				s.	
No. 2625	ξ	Cephei	+	1,49	Greenwich Observations for 1831 differ + 0,20s.
No. 2629	36	Aquarii ***	+	3,24	Piazzi's Catalogue confirms the Madras Result.
No. 2639		Aquarii	+	1,69	Madras Results re-examined.
No. 2765	ι	Gruis	+	3,61	
No. 2787	τ	Pegasi	+	1,54	

We now come to the examination of the North Polar Distance column and the "difference from Greenwich." From the results of Pages 131, &c. we might naturally expect that (the computations being correctly performed) the result of one years observation if derived from 3 or 4 observations would never disagree to the amount of two seconds; whereas from the anomaldies of Pages 122 and 123, a much larger amount of difference must be expected: selecting those cases where the largest difference of result occurs we have as follows.

No.	Observations.		Seconds of N.P.D.	Difference.
			s.	s.
352	5	give	48,04	3,70
	1	——	44,34	
898	5	——	44 69	3,63
	5	——	48.32	
928	5	——	53,50	4,26
	5	——	49,24	
1015	5	——	35,39	3,40
	5	——	31,99	
1110	5	——	38,07	4,32
	5	——	33,75	
1223	5	——	32 76	3,74
	5	——	29,02	
1333	2	——	13,31	4,17
	4	——	9,14	
1360	5	——	28,74	3,49
	2	——	25,25	
1526	4	——	58,91	4,04
	1	——	54,87	
1700	3	——	31,71	5,16
	11	——	36,87	
1904	1	——	34,74	6,44
	3	——	41.18	
1981	2	——	26 66	4,02
	3	——	30,68	
2301	2	——	45,55	3,73
	6	——	49,28	
2433	3	——	58,08	3,46
	2	——	61,54	
2561	5	——	60,11	3,70
	2	——	56,41	

*** On the 16th of October 1834, I observed the interval between the transit of this Star and of No. 2630 with the Mural Circle Telescope.

	m.	s.
To be.....	1	0,20
Interval in the Madras Catalogue.....	1	0,08
—— —— Ast. Soc. Catalogue.....	1	3,04

Neglecting the result No. 1904 from one observation, (for the Instrument might possibly have moved in the interval between the bisection and reading off) the largest discordance now met with is 5,16*s*. of which, more presently—from the remaining discordances (which it must be recollected are *extreme* ones,) it may be fairly inferred, *that the extreme error to which any result is liable does not often amount to two seconds of space and never exceeds two seconds and a half*—in comparing then two Catalogues such as the Madras and Greenwich, in which (in extreme cases) the errors may be expected to enter with opposite signs, it is proper to charge only *half* of the discordance as an error to either Catalogue; so that the extreme error of two seconds and a half just mentioned will occasionally give rise to a discordance of five seconds: in the column "difference from Greenwich" in which we can better learn the amount of these discordances

there are	177	cases	in which	the difference	is less than	1*s*.
——	356	——	——	——	——	2*s*.
——	492	——	——	——	——	3*s*.
——	592	——	——	——	——	4*s*.
——	631	——	——	——	——	5*s*.
and	36	——	——	——	is greater	5*s*.

Which are as follows:

		s.					
No. 59	+	5 37	Greenwich Observations for 1831 differ				+ 1,89*s*.
No. 162	+	8,33	Do.	Do.	Do.	Do.	+ 3,14*s*.
No. 178	—	5,65	Do.	Do.	Do.	Do.	— 3,09*s*.
No. 217	—	11,09	Do.	Do.	Do.	Do.	— 2,63*s*.
No. 269	+	5 06	Must be examined.				
No. 280	+	7,81	Greenwich Observations for 1831 differ				— 4,03*s*.
No. 595	—	5,16	Must be examined.				
No. 735	+	5,10*	Do.	Do.			
No. 757	+	5,54	Do.	Do.			
No. 791	+	5,57	Do.	Do.			
No. 877	—	6 57	Greenwich Observations for 1831 differ				— 4,30*s*.
No. 1179	+	5,04	Must be examined.				
No. 1254	+	5,01	Do.	Do.			
No. 1289	+	5,66	Do.	Do.			
No. 1607	+	5,39	Do.	Do.			
No. 1619	+	5,81	Do.	Do.			
No. 1665	+	5,63	Do.	Do.			
No. 1700	+	7,86	Do.	Do.			
No. 1803	+	5,30	Do.	Do.			
No. 1806	+	5,63	Do.	Do.			
No. 1816	+	7,73	Do.	Do.			

* The Cambridge place of this Star is about 50*s*. in error.

		s.	
No. 1837	+	5,28	Must be examined.
No. 1986	+	5,69	Do. Do.
No. 2028	—	5,03	Do. Do.
No. 2079	+	10,18	Greenwich Observations for 1831 differ + 4,63s.
No. 2105	+	5,11	Must be examined.
No. 2187	+	9,48	Greenwich Observations for 1831 differ + 1,03s.
No. 2196	+	5,87	Do. Do. Do. Do. + 3,32s.
No. 2198	+	5,57	Must be examined.
No. 2371	—	5,44	Do. Do.
No. 2561	+	6,89	Greenwich Observations for 1817 differ — 8,17s.
No. 2562	—	5,13	Must be examined.
No. 2661	+	16,33	Greenwich Observations for 1831 differ — 2 63s.
No. 2696	+	10,15	Do. Do. for 1817 differ + 1,35s.
No. 2710	+	6,39	Must be examined.
No. 2754	+	5,21	Do. Do.

In the above list there are six Stars which have been observed at the Cambridge Observatory see (Vol. VI for 1833) of which No. 162 differs from the Madras Catalogue 0,94s. and No. 2754 by 1,68s.; of the other four cases, Nos. 1254, 1607 and 1619, agree to a fraction of a second with the Greenwich Catalogue; with regard to the remaining case (that of No. 1700 which likewise agrees with the Greenwich place to 1s.) it will be as well here to give the result of each observation made at Madras.

Mean N. P. D. of β Ursæ Minoris reduced to January 1, 1832.

1832		°	′	″	1833		°	′	″
January	24	15	9	36,11	January	11	15	9	36,69
May	11	15	9	30,84		13	15	9	37,56
	12	15	9	33,13		14	15	9	36,94
	20	15	9	31,15		15	15	9	37,07
						16	15	9	36,73
						17	15	9	36,78
						18	15	6	37,17
						20	15	9	36,78
						21	15	9	37,37
						23	15	9	37,05
						25	15	9	36,40
					May	12	15	9	32,31

Mean..... 32,81 ..... 15 9 36,49

Or taking the general Mean we have..... 15 9 35,57*

Differing + 7,67s. from the Greenwich Observations.

And + 6,69s. —— Cambridge ——

* Differing a little from the result given at Page LXXVII in which I had rejected the observation of January 24, 1832 and of May 12, 1833.

On recomputing the observations of this Star my attention was arrested by noticing that the observations or rather the results of January 1832 agreed with those of January 1833, and that those of May 1832 agreed with those of the same month in 1833—could the change from the damp morning air of the N. E. Monsoon in January to the hot and dry winds from the S. W. and West in the month of May have any thing to do with it? were the corrections for Aberration, &c. correctly computed? these with several other possible sources of error have been very frequently and carefully examined without eliciting any cause to explain this very extraordinary disagreement—the observations of Polaris above and below the pole in January 1833 when applied to the determination of the Index Error agreed perfectly* with the Stars otherwise situated but, β Ursæ Minoris disagreed to the above amount.

With regard to the column "difference from A. S. C." the same objections applies to the N. P. D. as to the A. R. it will consequently only be necessary here to note the larger discordances, which are as follows.

		m.	*s.*	
No. 21	+	2	1,51	Or an Error of 2*m*.
No. 40	+	0	55,60	Do. Do. 1*m*.
No. 79	+	0	40,79	Had the proper motion mentioned by Piazzi been allowed in constructing the A. S. C. (— 1,25*s*.), the difference would have been + 0,79*s*.
No. 124	—	4	49,84	A discordance of 5*m*. which must be re-examined.
No. 268	—	0	45,96	Presumed amount of Proper Motion.
No. 337	—	0	25,00	Do. Do.
No. 368	—	0	28,32	Do. Do.
No. 439	+	5	28,12	Only one observation—possibly the wrong Star.
No. 483	—	0	20,20	Presumed amount of Proper Motion.
No. 610	+	0	41,63	Do. Do.
No. 630	+	0	20,73	Do. Do.
No. 671	+	0	25,29	Do. Do.
No. 1141	+	0	16,32	One observation gave 29*m*. 8,60*s*. there are probably two Stars.
No. 1247	—	0	27,53	
No. 1414	+	0	8,35	Another Star has been observed twice which gives 66° 1*m*. 31,75*s*.
No. 1436	—	0	51,77	Presumed amount of Proper Motion.
No. 1655	+	0	22,21	Do. Do.
No. 1690	+	0	58,93	With reference to the difference in A. R. as well as in N. P. D. see Piazzi † our observations give about 1¼*s*. for P. M. in A. R. and about 2*s*. in N. P. D.

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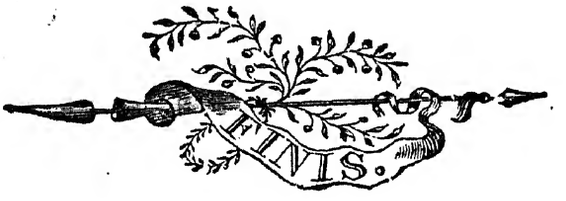
* In selecting a Catalogue of Stars to be observed for the purpose of determining the Index Error I have rejected those which from the observations of 1831 differed to the amount of 2*s*. from the Madras Result.

† Piazzi says—Exnostris observationibus annorum 1800 — 2 — 8 — 9, A. R. et declinatio crescere videntur, & magis declinatio, cujus annua variatio foret 1,0*s*. circiter: idem proxime habetur ex Monierio, qui unus stellam hanc ante nos observavit. Eadem duplex, & ipeins comes 0,7*s*. temporis præcedit parumper ad Anstrum.

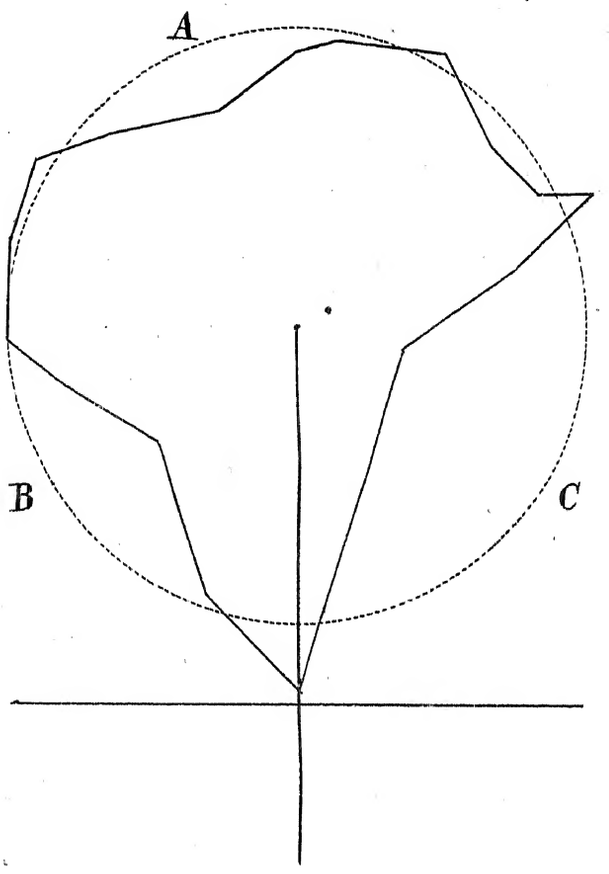
		m.	*s.*	
No. 1752	+	0	58,36	This has been repeatedly re-observed in 1835.
No. 2120	+	0	34,53	Presumed amount of Proper Motion.
No. 2155	—	0	23,07	Do. Do.
No. 2158	—	0	25,78	Do. Do.
No. 2351	+	0	26,22	Do. Do.
No. 2663	+	2	2,64	Greenwich confirms the Madras Result—with reference to Piazzi remark upon this Star ‡ it would appear that we have each observed the N. P. D. of the small Star, but it will I think be found that Piazzi is in Error.

‡ Præcedit 26*s.* temporis, alia 9æ magnitud. 2*m.* circiter ad Austrum.



Curve traced by a Dot situated .001 Inch from the Centre of the
of the Western Pivot of the Madras Transit Instrument.

(see Page 6)



Collimation Telescope Supports. (see Page 125)